

# USER GUIDE

SAFETY • INSTALLATION & INTEGRATION • OPERATING INSTRUCTIONS • MAINTENANCE • SERVICE



**U-LINE**

RIGHT PRODUCT. RIGHT PLACE. RIGHT TEMPERATURE. SINCE 1962.

2000 Series • 2260ZWC • 60 cm Wine Cellar Model

**Tip:** Click on any section below to jump directly there

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## WELCOME TO U-LINE

Congratulations on your U-Line purchase. Your product comes from a company with over five decades and three generations of premium modular ice making, refrigeration, and wine preservation experience. U-Line continues to be the American leader, delivering versatility and flexibility for multiple applications including residential, light commercial, outdoor and marine use. U-Line's complete global product collection includes modular Wine Cellars, Drinks Cabinets, Clear Ice Machines, Glass & Solid Door Refrigerators, Drawer Models, and Freezers.

U-Line has captivated those with an appreciation for the finer things with exceptional functionality, style, inspired innovations and attention to even the smallest details. We are known and respected for our unwavering dedication to product design, quality and selection. U-Line is headquartered in Milwaukee, Wisconsin with a west coast office located in Laguna Beach, California and European support in Dublin, Ireland. U-Line has shipped product to five continents for over two decades and is proud to have the opportunity to ship to you.

## PRODUCT INFORMATION

Looking for additional information on your product? User Guides, Quick Reference Guides, CAD Drawings, Compliance Documentation, and Product Warranty information are all available for reference and download at [u-line.com](http://u-line.com) under Documentation.

## PROPERTY DAMAGE / INJURY CONCERNS

In the unlikely event property damage or personal injury is suspected related to a U-Line product, please take the following steps:

1. U-Line Customer Care must be contacted immediately at +1.800.779.2547.
2. Service or repairs performed on the unit without prior written approval from U-Line is not permitted. If the unit has been altered or repaired in the field without prior written approval from U-Line, claims will not be eligible.

## SERVICE INFORMATION

Answers to Customer Frequently Asked Questions are available at [u-line.com](http://u-line.com) under Customer Care or you may contact our Customer Care group directly, contact information below.

### GENERAL INQUIRIES

U-Line Corporation  
8900 N. 55th Street  
Milwaukee, Wisconsin 53223 USA  
Monday - Friday 8:00 am to 4:30 pm UTC/GMT - 5  
T: +1.414.354.0300  
F: +1.414.354.7905  
Email: [sales@u-line.com](mailto:sales@u-line.com)  
[u-line.com](http://u-line.com)

### SERVICE & PARTS ASSISTANCE

Monday - Friday 8:00 am to 5:30 pm UTC/GMT - 5  
T: +1.800.779.2547  
F: +1.414.354.5696  
Service Email: [onlineservice@u-line.com](mailto:onlineservice@u-line.com)  
Parts Email: [onlineparts@u-line.com](mailto:onlineparts@u-line.com)

## CONNECT WITH US



Designed, engineered and assembled in WI, USA

## Safety and Warning

### NOTICE

**PLEASE READ all instructions before installing, operating, or servicing the appliance.**

### SAFETY ALERT DEFINITIONS

Throughout this guide are safety items labeled with a Danger, Warning or Caution based on the risk type:

#### **DANGER**

**Danger means that failure to follow this safety statement will result in severe personal injury or death.**

#### **WARNING**

**Warning means that failure to follow this safety statement could result in serious personal injury or death.**

#### **CAUTION**

**Caution means that failure to follow this safety statement may result in minor or moderate personal injury, property or equipment damage.**

### GENERAL PRECAUTIONS

Use this appliance for its intended purpose only and follow these general precautions with those listed throughout this guide.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with this appliance.

#### **DANGER**

**This unit contains R600a (Isobutane) which is a flammable hydrocarbon. It is safe for regular use. Do not use sharp objects to expedite defrosting. Do not service without consulting the "R600a specifications" section included in the User Guide. Do not damage the refrigerant circuit.**

#### **DANGER**

**Do not use electrical appliances inside the food storage compartment of this appliance.**

#### **WARNING**

**Keep ventilation openings in the appliance enclosure or in the built in structure clear of obstruction.**

#### **WARNING**

**Do not store explosive substances such as aerosol cans with flammable propellant in this appliance.**

#### **WARNING**

**Requirement for an external switch in the fixed wiring is specified.**

**⚠ CAUTION**

**Use care when moving and handling the unit.  
Use gloves to prevent personal injury from sharp edges.**

**If your model requires defrosting, DO NOT use medical devices or other means to accelerate the defrosting process. DO NOT use an ice pick or other sharp instrument to help speed up defrosting. These instruments can puncture the inner lining or damage the cooling unit. DO NOT use any type of heater to defrost. Using a heater to speed up defrosting can cause personal injury and damage to the inner lining.**

This appliance is intended to be used in household and similar applications such as:

- Staff kitchen areas in shops, office and other working environments.
- Farm houses and by clients in hotels, motels and other residential type environments.
- Bed and breakfast type environments.
- Catering and similar non-retail applications.

**NOTICE**

**Do not lift unit by door handle.**

**Never install or operate the unit behind closed doors. Be sure front grille (plinth strip/base fascia) is free of obstruction. Obstructing free airflow can cause the unit to malfunction and will void the warranty.**

**Failure to clean the condenser every six months can cause the unit to malfunction. This could void the warranty.**

**Allow unit temperature to stabilize for 24 hours before use.**

**Do not block any internal fans.**

**Use only genuine U-Line replacement parts. Imitation parts can damage the unit, affect its operation or performance and may void the warranty.**

## Disposal and Recycling

### **DANGER**

**RISK OF CHILD ENTRAPMENT. Before you throw away your old refrigerator or freezer, take off the doors and leave shelves in place so children may not easily climb inside.**

If the unit is being removed from service for disposal, check and obey all federal, state and local regulations regarding the disposal and recycling of refrigeration appliances, and follow these steps completely:

1. Remove all consumable contents from the unit.
2. Unplug the electrical cord from its socket.
3. Remove the door(s)/drawer(s).

## Environmental Requirements

This model is intended for indoor/interior applications only and is not to be used in installations that are open/exposed to natural elements.

This unit is designed to operate between 50°F (10°C) and 90°F (32°C). Higher ambient temperatures may reduce the unit's ability to reach low temperatures and/or reduce ice production on applicable models.

For best performance, keep the unit out of direct sunlight and away from heat generating equipment.

In climates where high humidity and dew points are present, condensation may appear on outside surfaces. This is considered normal. The condensation will evaporate when the humidity drops.

### **CAUTION**

**Damages caused by ambient temperatures of 40°F (4°C) or below are not covered by the warranty.**

## Electrical

### **WARNING**

#### **SHOCK HAZARD — Electrical Grounding**

**Required. Never attempt to repair or perform maintenance on the unit until the electricity has been disconnected.**

**Never remove the round grounding prong from the plug and never use a two-prong grounding adapter.**

**Altering, cutting or removing power cord, removing power plug, or direct wiring can cause serious injury, fire, loss of property and/or life, and will void the warranty.**

**Never use an extension cord to connect power to the unit.**

**Always keep your working area dry.**

If the detachable type electric supply cord is damaged, it must be replaced by an equivalent cord available from the manufacturer or its service agent.

### **NOTICE**

**Electrical installation must observe all state and local codes. This unit requires connection to a grounded (three-prong), polarized receptacle that has been placed by a qualified electrician.**

The unit requires a grounded and polarized 230 VAC, 50 Hz, 8A power supply (normal household current). An individual, properly grounded branch circuit or circuit breaker is recommended. A GFCI (ground fault circuit interrupter) is usually not required for fixed location appliances and is not recommended for your unit because it could be prone to nuisance tripping. However, be sure to consult your local codes.

See CUTOUT DIMENSIONS for recommended receptacle location.

## Cutout Dimensions

### PREPARE SITE

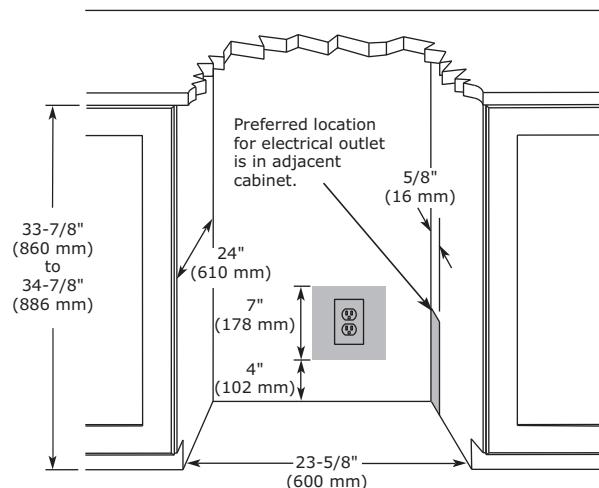
Your U-Line product has been designed exclusively for a built-in installation. When built-in, your unit does not require additional air space for top, sides, or rear. However, the front grille (plinth strip/base fascia) must NOT be obstructed.

### **CAUTION**

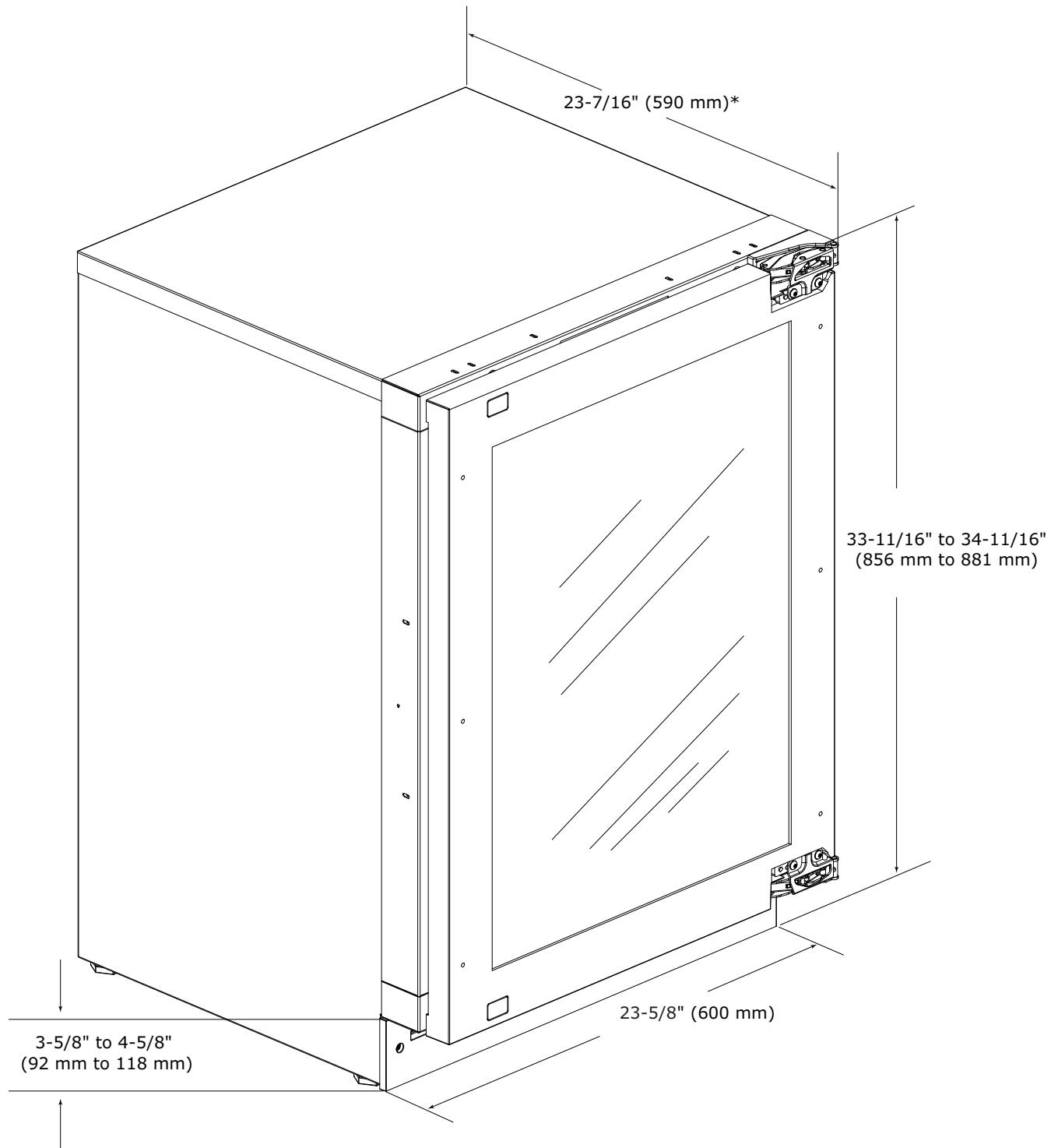
**Unit can NOT be installed behind a closed cabinet door.**

**U-Line products are designed and manufactured to be installed in the specified cutout openings shown, and variance to the floors or cabinetry must be accounted for in your installation.**

### CUTOUT DIMENSIONS



## Product Dimensions



\*Includes 3/4" (20 mm) integrated panel

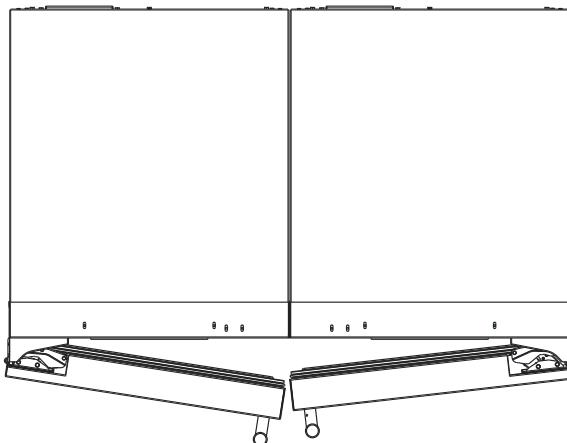
## Side-by-Side Installation

### OTHER SITE REQUIREMENTS

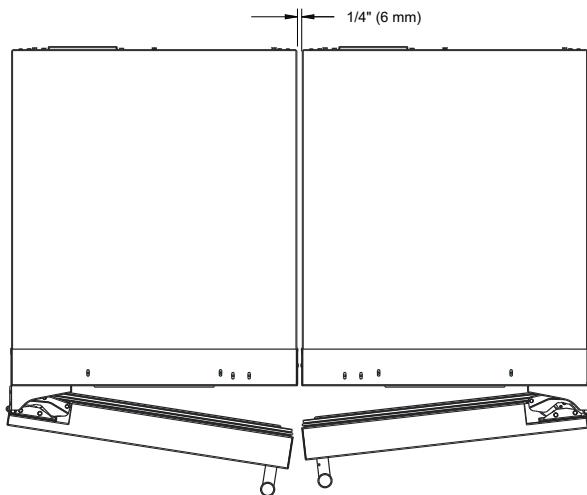
#### Side-by-Side Installation

Units must operate from separate, properly grounded electrical receptacles placed according to each unit's electrical specifications requirements.

Cutout width for a side-by-side installation is the total of the widths listed under Cutout Dimensions in each unit's Installation Guide. Each door can be opened individually (one at a time) without interference.

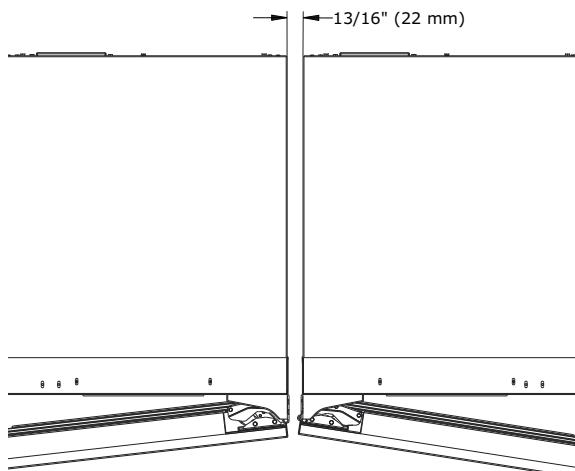


However, to ensure unobstructed door swing (opening both doors at the same time), 1/4" (6.4 mm) of space needs to be maintained between the units.

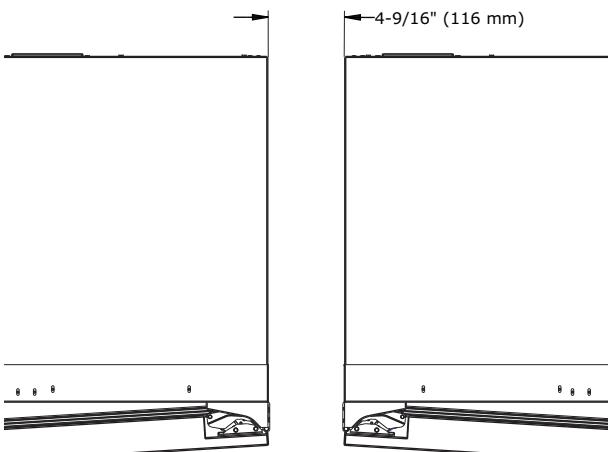


#### Hinge-by-Hinge Installation (Mullion)

When installing two units hinge-by-hinge, 13/16" (22 mm) is required for integrated models. Additional space may be needed for any knobs, pulls or handles installed.



Stainless steel models which include the standard stainless handle will require 4-9/16" (116 mm) to allow both doors to open to 90° at the same time.



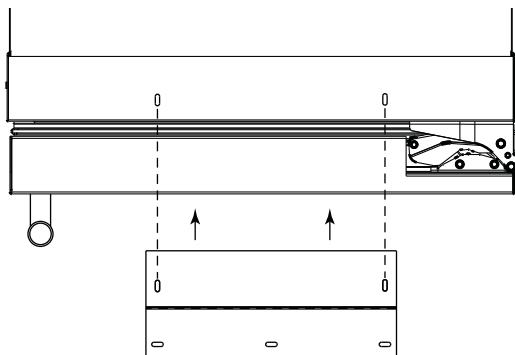
## Anti-Tip Bracket

### CAUTION

**The anti-tip bracket must be installed to prevent the unit from tipping when doors are fully opened or excess weight is placed on the front of the unit.**

The anti-tip bracket has multiple mounting options. Mounting will depend on your particular cabinet configuration. Locate 3 #8x5/8" screws included with your unit.

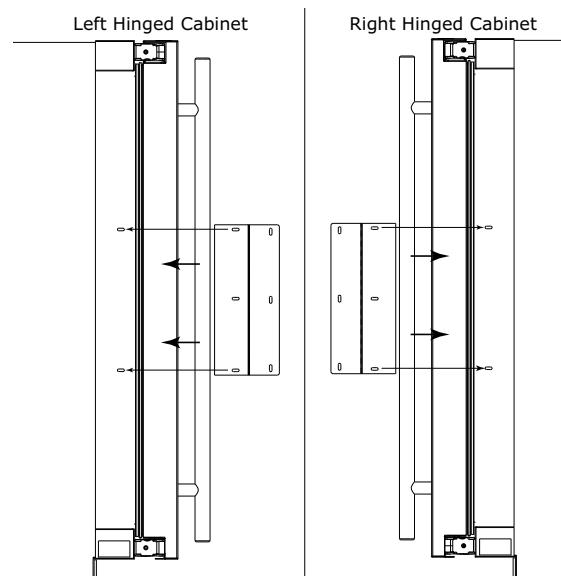
### TOP MOUNT



For ease of installation, the anti-tip bracket is pre-installed in the top mount position.

1. Completely slide the unit into its position in the cabinet. Be certain unit height is properly adjusted. (See GENERAL INSTALLATION).
2. Open door completely. Make certain door clears surrounding cabinetry.
3. Using a 3/32" (2.50 mm) drill bit, drill 3 pilot holes 5/8" (16 mm) deep into bottom of counter top. Use the anti-tip bracket as a template.
4. Install 3 #8x5/8" screws into the plate using a #2 Phillips head screwdriver.

### SIDE MOUNT



Side mount position is used when you are unable to mount the bracket to the underside of your countertop.

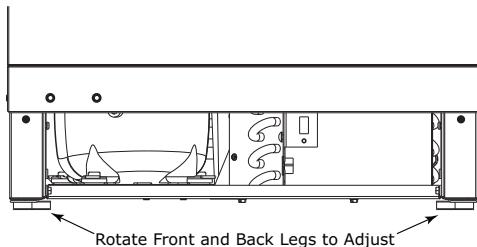
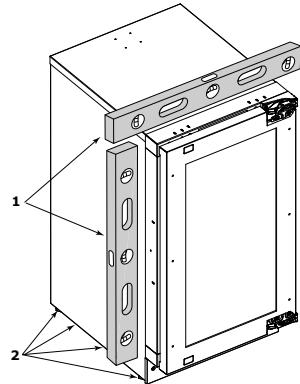
1. Remove the pre-installed anti-tip bracket from the top mount position and align the bracket to the hinge side of the unit as shown above.
2. Reinstall the 2 #8x5/8" screws into the plate using a #2 Phillips head screwdriver.
3. Completely slide the unit into its position in the cabinet. Be certain unit height is properly adjusted. (See GENERAL INSTALLATION).
4. Open door completely. Make certain door clears surrounding cabinetry.
5. Using a 3/32" (2.50 mm) drill bit, drill 3 pilot holes 5/8" (16 mm) deep into cabinetry frame using the anti-tip bracket as a template.
6. Install 3 #8x5/8" screws into the plate using a #2 Phillips head screwdriver.

## General Installation

### LEVELING INFORMATION

1. Use a level to confirm the unit is level. Level should be placed along top edge and side edge as shown.

2. If the unit is not level, remove grille and adjust legs as necessary.



3. Confirm the unit is level after each adjustment and repeat the previous steps until the unit is level.

### INSTALLATION TIP

If the room floor is higher than the floor in the cutout opening, adjust the rear legs to achieve a total unit rear height of 1/8" (3 mm) less than the opening's rear height. Shorten the unit height in the front by adjusting the front legs. This allows the unit to be gently tipped into the opening. Adjust the front legs to level the unit after it is correctly positioned in the opening.

### INSTALLATION

1. Plug in the power/electrical cord.
2. Gently push the unit into position. Be careful not to entangle the cord.
3. Re-check the leveling, from front to back and side to side. Make any necessary adjustments. The unit's top surface should be approximately 1/8" (3 mm) below the countertop.
4. Install the anti-tip bracket.
5. Remove the interior packing material and wipe out the inside of the unit with a clean, water-dampened cloth.

## Integrated Panel Dimensions

### INTEGRATED PANEL

#### NOTICE

**Due to differences in surrounding cabinetry the panel may not perfectly align with door. The procedure below is designed to provide a finished integrated panel that seamlessly integrates with surrounding cabinetry.**

#### Panel Preparation

A full integrated door panel completely covers the door frame and provides a built-in appearance.

#### NOTICE

**The door panel must not weigh more than 20 lbs (10 kg).**

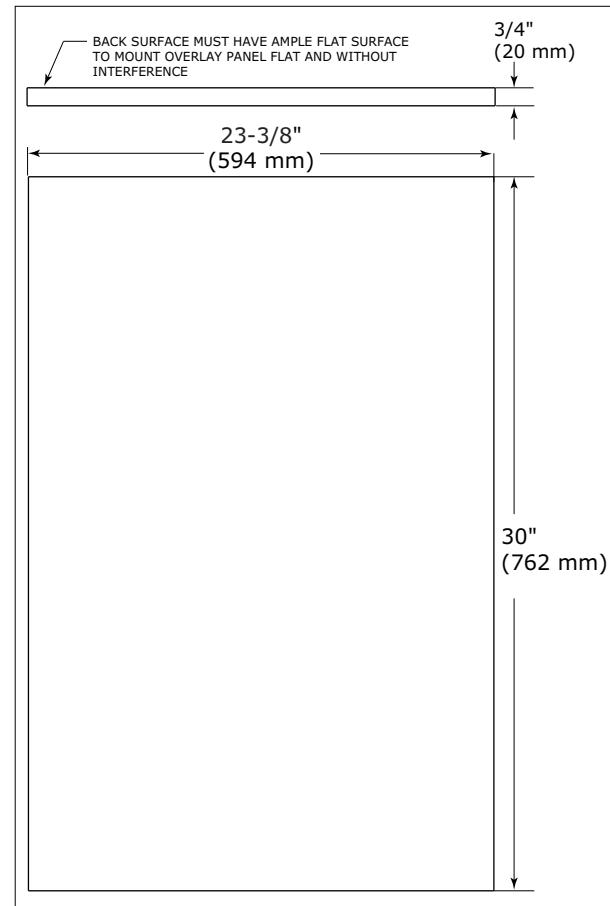
**It is important to ensure that all drilled holes are drilled to the correct depth in order to avoid splits in the wood when hardware is installed.**

1. Cut the panels to the dimensions listed in the appropriate diagram below.
2. Optional: Stain or finish panel to desired stain or color. Be sure to closely follow the instructions provided by the manufacturer.
3. Optional: Install handles and hardware.

#### NOTICE

**When applying an integrated panel to a unit, ensure that both sides are finished in order to prevent warping. In some overlay panel/frame installations, the panel may be visible through the glass while the door is open.**

### Integrated Panel Dimensions



## HANDLELESS INTEGRATED DOOR PANEL

The following procedure is designed to provide a finished, handleless solid panel for a 24" (600 mm) door that seamlessly integrates with its surrounding cabinetry.

**NOTE:** Many cabinet manufacturers provide a ready solution for a handleless, integrated design that can be easily applied to your U-Line 3000 Series model. Consult your cabinet manufacturer for applicable design and installation details. The cabinet manufacturer's solution to this design and integration detail will often result in an integrated panel solution wherein the size of the panel may result in a height dimension taller than what we specify. This can be achieved provided the additional height is positioned above the appliance door.

### NOTICE

**The integrated panel aligns with the surrounding cabinetry and, due to differences in cabinetry, may not align perfectly with the door.**

**The appliance will need up to 34-1/2" (876 mm) to the underside of the counter to leave room for leveling adjustments.**

**A single prepared overlay with insert must not weigh more than 20 lbs (10 kg).**

### Integrated Panel Preparation

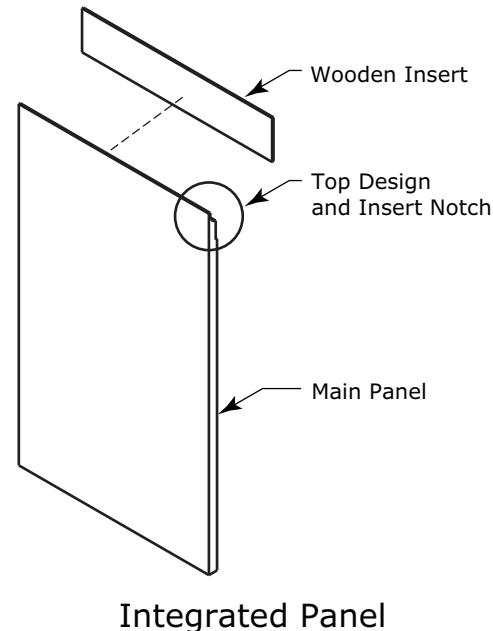
1. Cut the main panel to the appropriate dimensions below. For details, see the drawings on the next page.

Main panel width	Main panel height
23-3/8" (594 mm)	28-13/16" (732 mm)

2. Create the top design for the handleless feature and the 1/8" (3 mm) notch for the insert(s) indicated on the Top Detail drawing.

3. Prepare the insert(s) that will back up the handleless design. **Wooden Insert** – Cut 1/8" (3 mm) thick wooden insert(s) to the dimensions below.

Wooden insert width	Wooden insert height
23-3/8" (594 mm)	3-1/2" (89 mm)

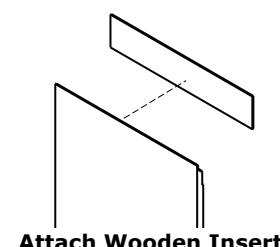


4. Optional: Stain or finish panel and wooden insert to desired stain or color. Be sure to closely follow the instructions provided by the manufacturer.

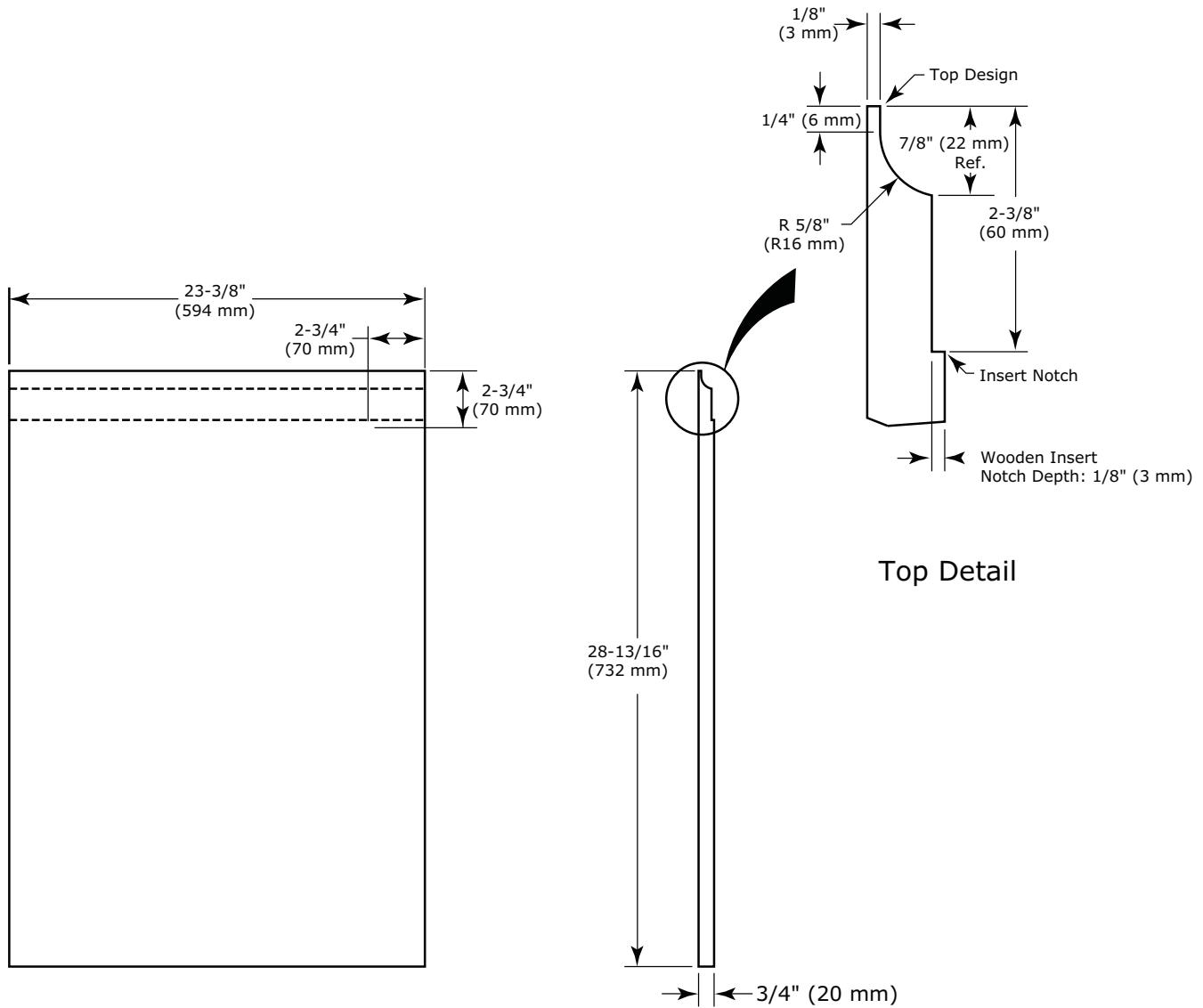
### NOTICE

**If finishing panel or wooden insert, all sides must be finished to prevent warping.**

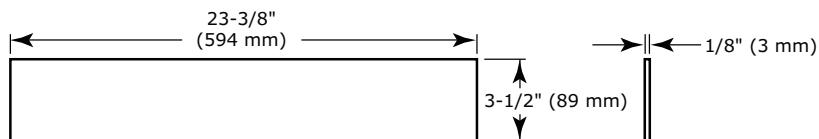
5. Attach the insert to the panel. Wood glue or equivalent adhesive should be used to attach insert to panel.



## Handleless Integrated Panel Dimensions



## Wooden Insert Dimensions



## EXTENDED INTEGRATED PANEL

### NOTICE

**Due to differences in surrounding cabinetry the panel may not perfectly align with door. The procedure below is designed to provide a finished panel that seamlessly integrates with surrounding cabinetry.**

### Panel Preparation

An extended integrated panel can be used to maintain alignment with an adjacent extended cabinet height or a reduced toe-kick/grille application.

1. Cut the panels to the dimensions listed in the appropriate diagram on the next page.
2. Optional: Stain or finish panel to desired stain or color. Be sure to closely follow the instructions provided by the manufacturer.
3. Optional: Install handles and hardware.

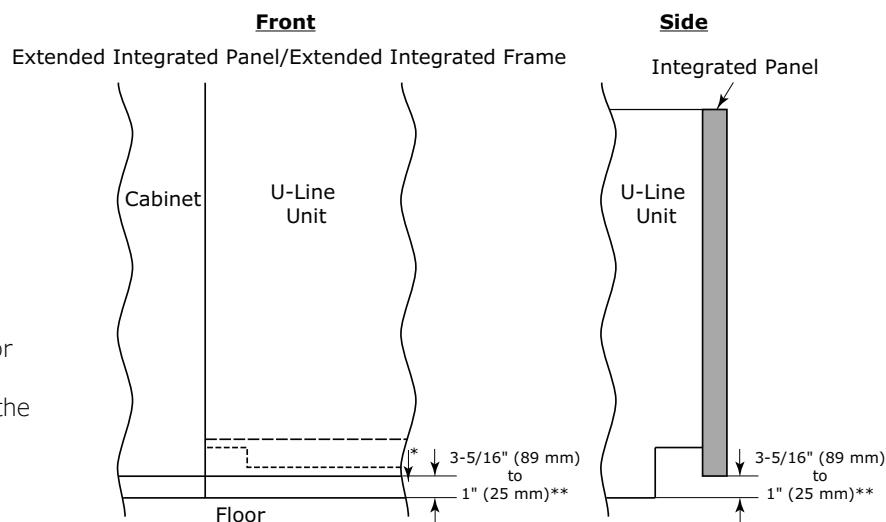
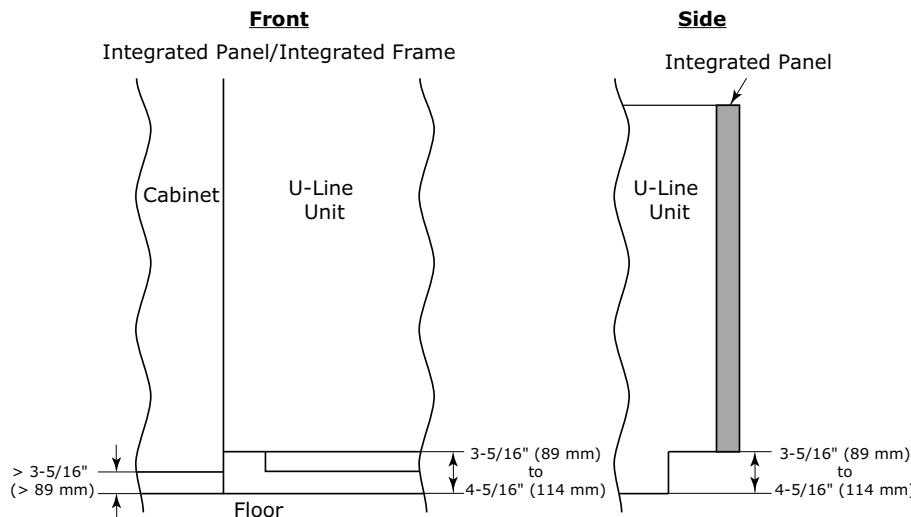
### NOTICE

**The door panel must not weigh more than 20 lbs (10 kg).**

**It is important to ensure that all drilled holes are drilled to the correct depth in order to avoid splits in the wood when hardware is installed.**

**Appliance will need up to 34-1/2" (876 mm) to the underside of the counter to leave room for leveling adjustments.**

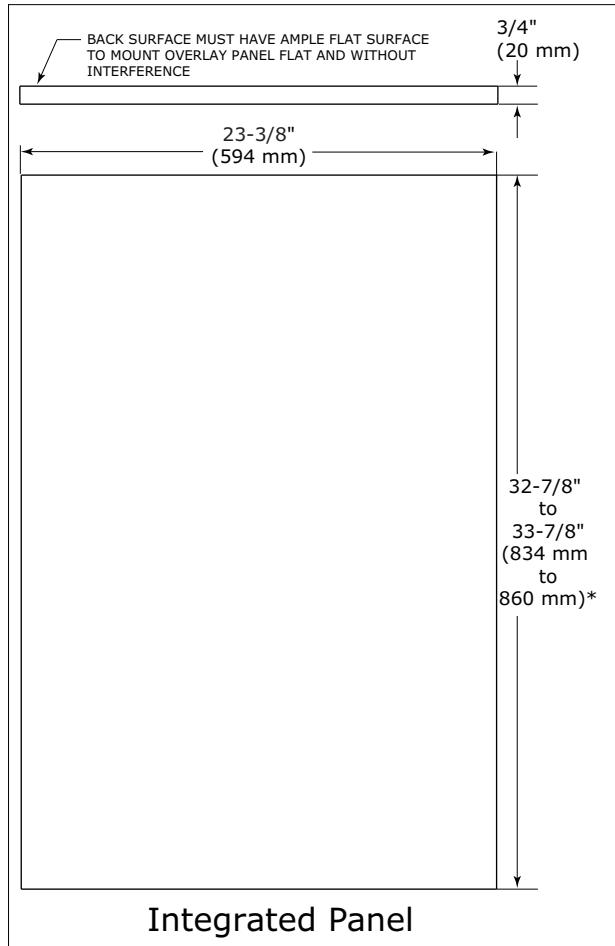
**When applying an integrated panel to a unit, ensure that both sides are finished in order to prevent warping. In some installations, the panel may be visible through the glass while the door is open.**



\* Panel can extend beyond the door frame.

\*\* A minimum of 1" (25 mm) from the floor is required for proper ventilation.

## Extended Integrated Panel Dimensions



\* A minimum of 1" (25 mm) is required from the floor to the bottom of the extended integrated panel/frame for proper ventilation.

## Integrated Grille - Plinth Dimensions

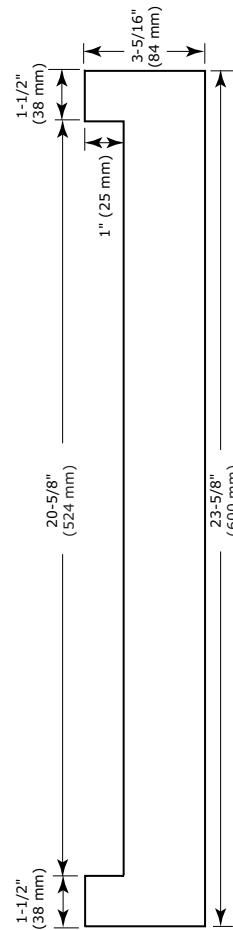
### PREPARE AND INSTALL INTEGRATED GRILLE (PLINTH STRIP/BASE FASCIA)

1. Use the dimensions provided in the diagram to cut and shape your integrated grille (plinth strip/base fascia) panel. Recommended panel thickness is between 1/4" (6 mm) and 3/8" (9 mm).
2. Finish or stain your grille (plinth strip/base fascia) panel to match your surrounding furniture. Finish front, back and edges to prevent warping. Carefully follow the manufacturer's recommendations for finish application and cure times.
3. Apply double sided tape to the backside of the integrated grill (plinth strip/base fascia). Use the diagram below for reference. U-Line recommends 3M™ VHB™ tape, a high strength bonding tape.

Apply Tape To Shaded Area



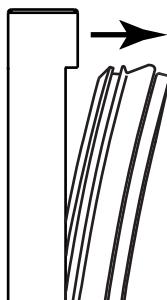
### INTEGRATED GRILLE (PLINTH STRIP/BASE FASCIA) DIMENSIONS



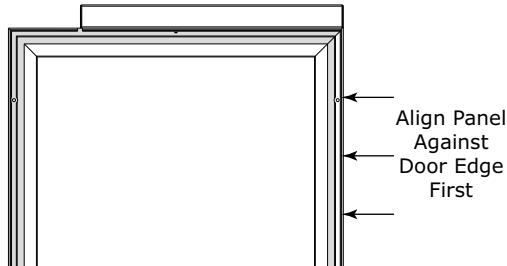
4. Remove backing paper from double sided tape.
5. Carefully align grille (plinth strip/base fascia) over integrated panel and press into position.

## Integrated Panel Installation

1. Fully open door.
2. Starting at corner, pull gasket away from door.
3. Continue to pull gasket free from gasket channel.
4. Upon removal, lay gasket down on a flat surface.
5. The panel should be aligned with the outside edge (opposite the hinge) and high enough to align with the highest point in the door.



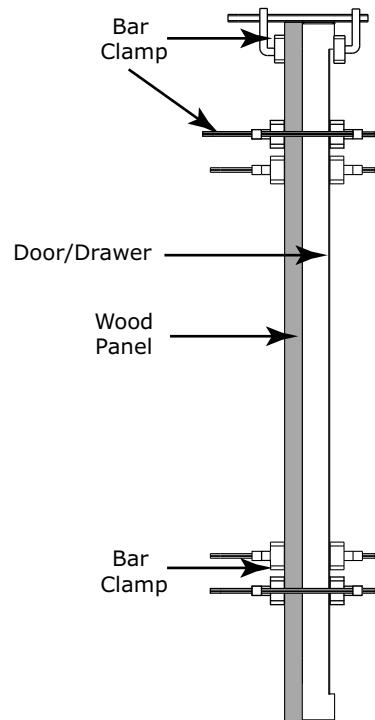
Align Top Of Panel With Highest Point Of Door



### NOTICE

**Due to differences in floor construction or surrounding cabinetry, the panel may not sit flush with the top of the door.**

6. Secure integrated panel to door using clamps. A robust tape may also be used. U-Line recommends the use of bar clamps to secure the panel to the door. If using tape, be certain the tape will not damage panel finish upon removal.

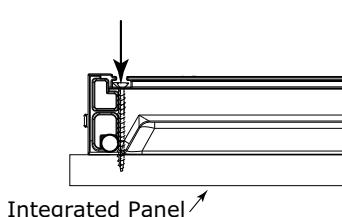
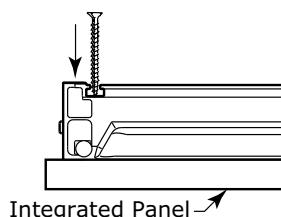


7. Using a 7/64" (3 mm) drill bit, drill 6 pilot holes into the wood panel 1/2" (12 mm) deep using the holes in the door frame as a guide.

### NOTICE

**It is important to ensure that all drilled holes are drilled to the correct depth in order to avoid splits in the wood when hardwood is installed.**

8. Locate 6 of the #6x 1-1/2" (38 mm) screws provided with your unit.
9. Using a Phillips screwdriver, place one screw into each of the 6 pilot holes and screw down. Do not overtighten screws.
10. Ensure the screws sit flush against the bottom of the channel.



11. Remove clamps from door.

## **NOTICE**

**If panel requires additional adjustment after removing clamps, slightly loosen each screw and adjust panel as necessary. Tighten screws upon completion.**

12. Starting at the corners, re-install the gasket into the gasket channel in the frame. Make sure the gasket is fully seated.

## Grille - Plinth Installation

### REMOVING AND INSTALLING GRILLE (PLINTH STRIP/BASE FASCIA)

#### **⚠ WARNING**

**Disconnect electric power to the unit before removing the grille (plinth strip/base fascia).**

**When using the unit, the grille (plinth strip/base fascia) must be installed.**

#### **⚠ WARNING**

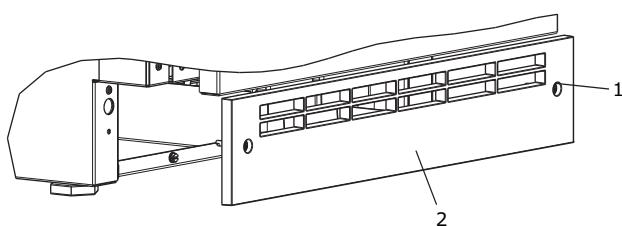
**DO NOT touch the condenser fins. The condenser fins are SHARP and can be easily damaged.**

#### **Removing the grille (plinth strip/base fascia)**

1. Disconnect power to the unit.
2. Loosen the two screws (1).
3. Remove grille (plinth strip/base fascia) (2) from unit.

#### **Installing the grille**

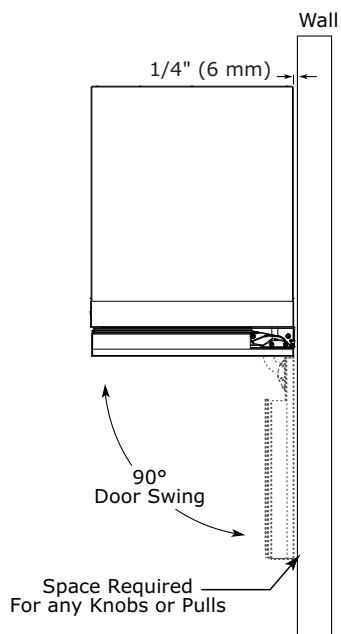
1. Align cabinet and grille holes and secure, but do not over tighten grille (plinth strip/base fascia) screws (1).
2. Reconnect power to the unit.



## Door Swing

For models that are installed adjacent to a wall, 1/4" (6 mm) clearance is recommended from wall on hinge side to allow the door to open 90°. Allow for additional space for any knobs or pulls installed on the integrated panel/frame.

Units have a zero clearance when installed adjacent to cabinets.



## Door Stop

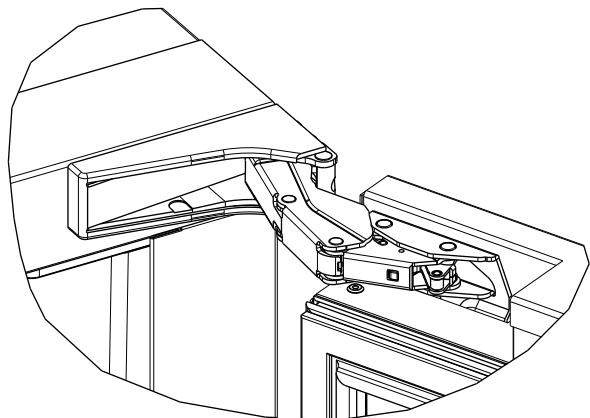
Your U-Line unit was shipped to you with the optional 90° pin.

Your unit's door(s) will open 115° straight from the factory. If you would like the door stop at 90° follow these instructions.

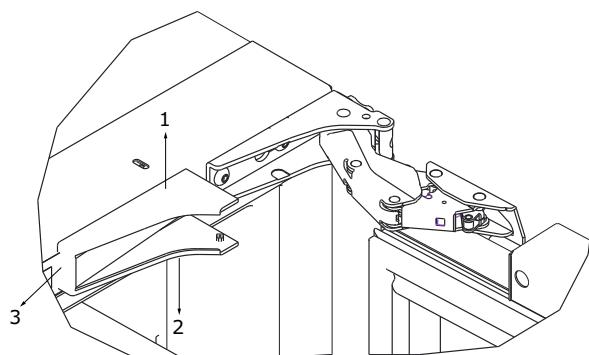
### NOTICE

**If your unit is already undercounter, it will need to be moved out to access the hinge. With the 90° stop pin in place, you will not be able to replace the hinge cover.**

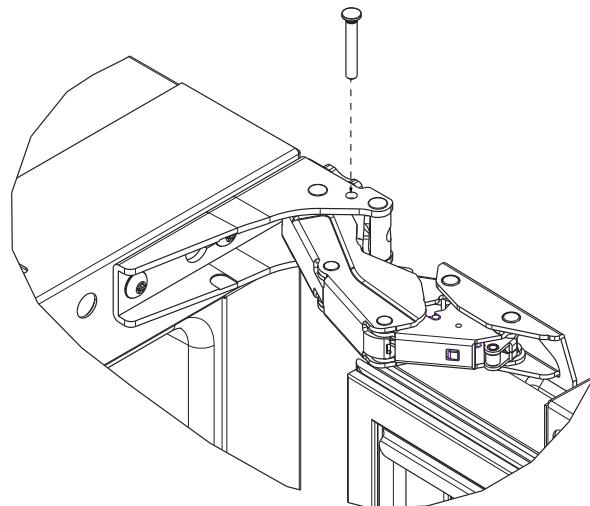
1. Open door approximately 90°.



2. Remove hinge cover by lifting top and bottom of hinge cover and sliding the cover inwards to remove from hinge.



3. Once cover is removed, slide hinge pin into hole as shown. Pin should slide into place, stopping the door at 90°; if the pin does not go into the hole shown, hold the door less than 90° open and try again.



4. To fully seat the pin, tap it lightly with a hammer.
5. Carefully slide your unit back in place.

### NOTICE

**The pin can be removed to return the door swing back to its original 115° swing by tapping the pin out from the bottom of the hinge.**

### CLOSER

The door hinge has a self-closing feature that engages when the door is open approximately 6" (150 mm) (about 25°).

## Door Adjustments

### DOOR ALIGNMENT AND ADJUSTMENT

Align and adjust the door if it is not level or is not sealing properly. If the door is not sealed, the unit may not cool properly, or excessive frost or condensation may form in the interior.

### NOTICE

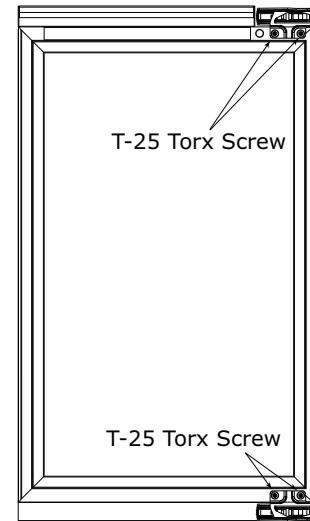
**Properly aligned, the door's gasket should be firmly in contact with the cabinet all the way around the door (no gaps). Carefully examine the door's gasket to ensure that it is firmly in contact with the cabinet. Also make sure the door gasket is not pinched on the hinge side of the door.**

### CAUTION

**Do not attempt to use the door to raise or pivot your unit. This would put excessive stress on the hinge system.**

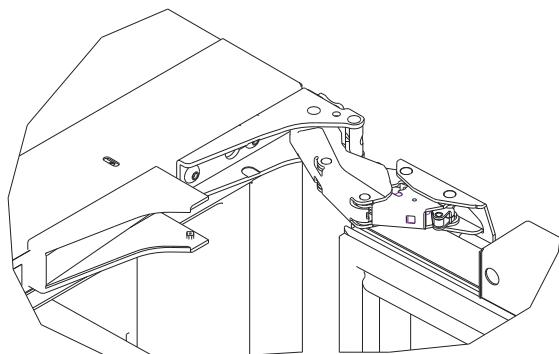
### Alignment and Adjustment Procedure

1. Open door and remove gasket near the hinges.
2. Using a T-25 Torx Bit, loosen each pair of Torx head screws on both the upper and lower hinge plates.
3. Square and align door as necessary.
4. Tighten Torx head screws on hinge.
5. Reinstall gasket into the channel starting at the corner.

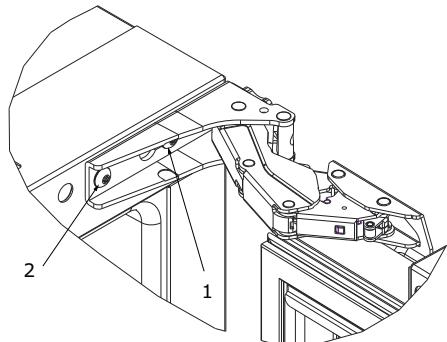


### REVERSING THE DOOR

1. Open door.
2. Remove top hinge cover by lifting top and bottom flaps and slide inwards. Repeat on bottom hinge.



3. Using T-25 Torx bit loosen screw #1 and remove screw #2 on top and bottom hinge. Slide and remove the door from unit. Completely remove screw #1 on top and bottom.



4. Remove caps from screw heads on opposite side (2 on top and 2 on bottom). Using #2 Phillips bit remove the 4 underlying screws. Reinstall the screws and caps on the opposite side.
5. Partially install screw #1 in the outer most holes on top and bottom. Rotate door 180°, align hinge over screw #1 and slide/seat into position. Reinstall screw #2 on top and bottom. Tighten both screws and install hinge cover.

#### **Align and adjust the door:**

Align and adjust the door (see DOOR ALIGNMENT AND ADJUSTMENT).

## Wood Trim Finishing

The wine rack fronts are solid natural beech wood. They are factory coated with a clear vinyl sealer, which will sufficiently protect the wood in normal use.

You may coat the trim with stain and/or a final finish to match surrounding cabinetry.

### **CAUTION**

**You MUST remove the wood trim from the unit for staining or finishing to prevent permanent damage to the inner liner of the unit. Allow stain or finish to dry thoroughly (at least 24 hours for each coat) following the product manufacturer's instructions before reinstallation. Not following this warning may cause the inner liner of the unit to have a permanent odor, which the warranty will not cover.**

U-Line recommends Minwax® Brand Water Based Stains and Minwax Polycrylic® Protective Finish.

### **NOTICE**

**Never use oil based stains or finishes.**

**On glass door models, the stain may appear darker when viewed through the glass.**

**Follow the manufacturers instructions for the stain and/or finish you select.**

## First Use

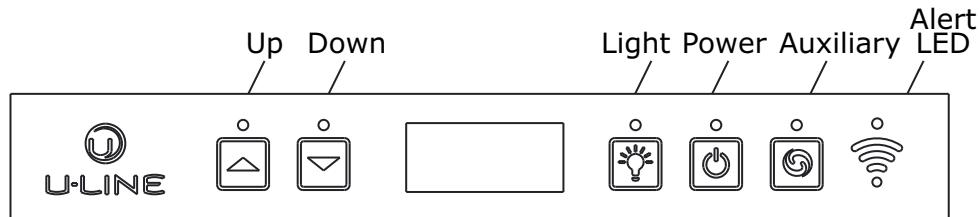
All U-Line controls are preset at the factory. Initial startup requires no adjustments.

### **NOTICE**

**U-Line recommends allowing the unit to run overnight before loading with product.**

When plugged in, the unit will begin operating under the factory default settings. If the unit was turned off during installation, simply press  and the unit will immediately switch on. To turn the unit off, press .

## Control Operation



### CONTROL FUNCTION GUIDE

FUNCTION	COMMAND	DISPLAY/OPTIONS
ON/OFF	Press  and release	Unit will immediately turn ON or OFF.
Toggle lights	Press  and release	Leave interior light on for 3 hours.
Adjust temperature	Press  or  and release	The zone you are setting will have its light turned on (top zone first).
	Press  or  to adjust set point temperature	Display will show the set temperature.
	Press  to change zones	Light will switch from top zone to the bottom zone.
	Press  or  to adjust set point temperature	Display will show the set temperature.
	Press  to confirm and exit	
View temperature in unit	Press  and  together and release	The display will flash and then toggle from set point to temperature in unit. The temperature shown will correspond to the illuminated zone.
Toggle between F/C	Hold  and  for 5 seconds	The display will change units.

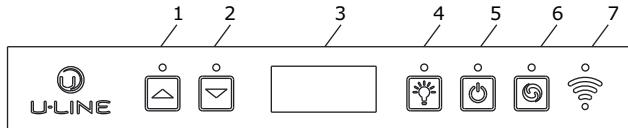
### DOOR ALERT NOTIFICATION

When the door is left open for more than 5 minutes:

- An audible tone will sound for several seconds every minute.
- The Alert LED will blink.

Close door to silence alert and reset.

## Sabbath Mode



This unit is Star-K certified and offers a Sabbath mode. Sabbath mode disables system responses to user initiated activities and all external functions, including lighting, display and audible alarms. The unit will still maintain internal temperatures and set points. View a full list of Star-K certified U-Line units at [www.star-k.org](http://www.star-k.org).

To enable Sabbath Mode:

1. Press  (4) and hold for ten seconds and release (the °F/°C symbol will flash briefly at the end of the ten second period).
2. The interior light and control display (3) will go dark until user resets mode.
3. NOTE: Although the display will not be visible, the temperature controls in the unit remain active and preserve the interior temperature.

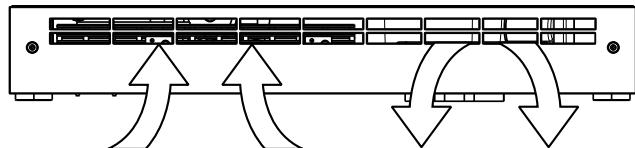
Sabbath Mode remains active until  (4) is quickly pressed and released.

## Airflow and Product Loading

### NOTICE

**The unit requires proper airflow to perform at its highest efficiency. Do not block the front grille, or the unit will not perform as expected. Do not install the unit behind a door. When loading your unit, leave space between the evaporator and product loaded. Anything in direct contact with the evaporator is subject to freezing.**

When properly loaded, your U-Line unit will store up to 43 (750 ml) bottles of wine.



## U-Line Wine Guide

### LOOKING BEHIND THE LABEL

To most, wine is a delicious mystery. We purchase it, uncork it, and savor its taste and beauty. But there is so much more to true wine appreciation. Many secrets are simply too good to keep bottled up.

### WINE SELECTIONS SUGGESTIONS

Selecting the right wine for the right occasion can sometimes be a seemingly awkward or difficult task for the beginning wine enthusiast. We would therefore like to present you with a few suggestions which may provide a little more confidence and enjoyment when choosing and serving your wines.

When selecting wines, keep an open mind and do not be afraid to be adventurous. Do not view the subject of wine so seriously it discourages you from learning and discovering for fear of embarrassment if something is incorrect. Wine is best viewed as a hobby and enjoyed.

When assembling your collection, try not to become obsessed with "Vintages." Although a chart can be a useful tool, generalizations about a specific year have led more than one collector to disappointment. Often an "Off Year" will provide a better value and more drinking enjoyment.

The primary guideline to the subject of wine is your own palate. Do not be afraid to make mistakes. Experiment, discover, but most of all, enjoy yourself and your new U-Line product.

### Guide To Common Styles Of Wine

Red Wines		
Full-Bodied Dry	California French Italian	Zinfandel, Cabernet Rhone, Chateauneuf-du- Pape Barbaresco, Barolo
Medium-Bodied Dry	California French	Pinot Noir Bordeaux, Burgundy
Light-Bodied Dry	French Italian	Beaujolais Chianti, Bardolino
White Wines		
Full-Bodied Dry	California French	Chardonnay Montrachet, Meursault Puligny- Montrachet
Medium-Bodied Dry	California French	Sauvignon-Blanc Pouilly-Fuisse, Sancerre, Vouvray, Graves
Light-Bodied Dry	French	Chablis, Muscadet, Pouilly-Fume
Full-Bodied, Very Sweet	Germany French Hungary	Beerenauslese Sauternes Tokay
Medium-Bodied, Semi-Sweet	California Germany	Gewurtztraminer Liebfraumilch
Light-Bodied Off Dry	Germany	Rhine, Mosel, Riesling

### Matching Food and Wine

Although there are no hard fast rules for matching wine to food, observe some guidelines. Delicate dishes should be accompanied by lighter more delicate wines. Full-flavored foods should be matched with fuller-bodied wines.

As a general rule, one should aim to ascend in flavor and quality of wines served.

Serve a:	Before a:
DRY wine	SWEET wine
WHITE wine	RED wine
YOUNG wine	OLD wine
LIGHT-BODIED wine	FULL-BODIED wine

Any step back in quality will be noticed. If a fine wine is tasted prior to a lesser wine, many of the fine wine's subtle qualities may be missed.

## Common Food and Wine Matches

Foods	Wines
Fish, Shell Fish, Crab, Oysters	Dry White Wines, Light Sparkling or Extra Dry Champagne
Beef, Venison	Full-Bodied Red Wines
Pork, Veal, Lamb and Poultry	Light-Bodied Red Wines
Fruit	Sweet White and Sparkling Wines

## A Toast to Wine Truths

Like the grapes themselves, many wine myths have been cultivated over the centuries.

**Myth 1:** Most wines taste better when aged.

**Truth:** In fact, less than 5% of wines produced today are meant to be aged. Most wines are crafted to be consumed within the first one to two years.

**Myth 2:** Wines should be uncorked and decanted allowing them to "breathe."

**Truth:** To breathe or not breathe? While it is better to allow a young tannic Red to breathe in a glass or decanter to soften the tannins, an old Red reaches a stage in its life where it should be enjoyed soon after opening. Allow an old Red to breathe for a short time to dissipate any off odors. Most white wines can be served, ideally, 10-15 minutes after opening.

**Myth 3:** When age worthy wines peak, they must be consumed almost immediately.

**Truth:** Most great wines reach a plateau period rather than a peak. Great Bordeaux's may have as much as a 10-year plateau before fading.

**Myth 4:** Wine color does not change with aging.

**Truth:** As red wines age they get lighter in color while whites get darker.

## The Cork: A Mystery on Its Own

Cork Presentation. The ritual of the presentation of the cork has a rich and fascinating history dating back to the late 1800's. A phylloxera (root louse) devastation to the vineyards severely limited the supply of great wines. Restaurateurs would remove labels on inferior wines and replace them with labels from superior wines. This made it necessary for patrons to protect themselves by checking the branding on the cork to ensure that what they ordered was, in fact, what they were served.

When presented with a cork today, feel it to check for its integrity, read and match the branding on the cork to the bottle and set it aside. There is little to be learned from the cork. The proof is in the wine.

"Corked" wines. If you've ever had a wine that smelled or tasted of mold, you've experienced a wine that may have been "corked." Today, between five and eight percent of wines are tainted with Trichloroanisole (TCA). This substance, found naturally in plants and trees, is imparted to the wine through the cork. Corked wines are a major concern for winemakers as it destroys millions of cases per year and puts reputations at stake. Amazing as it may seem twist-off caps may offer a better alternative and many great wineries in California, Australia and New Zealand are pioneering the trend.

## Common Tasting Terms

Terminology	Description
Acidity	A critical element of wine that is responsible for preserving the wine's freshness. Excess acidity results in an overly tart and sour wine.
Balance	A desired trait where tannin, fruit and acidity are in total harmony. Wines with good balance tend to age gracefully.
Body	The weight and presence of wine in the mouth provided by the alcohol and tannin level. Full-bodied wines tend to have this strong concentration.
Bouquet	The blending of a wine's aroma within the bottle over a period of time, caused by volatile acidity.
Complex	A subjective term often used in tasting. A wine is said to be complex if it offers a variety of flavors and scents that continue to evolve as it develops.
Flabby	A wine that lacks structure, or is heavy to the taste, lacks acidity.
Full-Bodied	Wine high in alcohol and extract, generally speaking, fills the mouth, powerful.
Lean	Generally describes wines that are slim, lacking in generosity or thin.
Oaky	A desirable flavor imparted to wine if done in moderation. Most wines are aged in oak barrels one to three years, thereby receiving this toasty oak characteristic. However, if a weak wine is left in contact too long with an oak barrel it will tend to be overpowered with an oaky taste.
Tannin	Tannins are extracted from the grape skins and stems and are necessary for a well-balanced red wine. Tannins are easily identified in wine tasting as the drying sensation over the gums. Tannins generally fade as a wine ages.

## IDEAL WINE STORAGE CONSIDERATIONS

**Temperature:** The most important element about storage temperature is stability. If wine is kept in a stable environment between 40°F (7°C) and 65°F (21°C), it will remain sound. A small 1-2 degree temperature fluctuation within a stable environment is acceptable. Larger temperature fluctuations can affect the cork's ability to seal, allowing the wine to "leak" from the bottle.

**Humidity:** The traditional view on humidity maintains that wines should be stored on their sides in 50% - 80% relative humidity to ensure cork moisture and proper fit in the bottle. Contemporary wisdom suggests that the cork surface is too small to be impacted by humidity. Further the cork is sealed with a metal or wax capsule making humidity penetration impossible. The concept of a humid storage environment was derived from the necessity of wineries to maintain moisture in their cellars to keep wooden barrel staves swollen, preventing wine evaporation and product loss. In fact, vineyards estimate as much as a 10% product loss per year due to evaporation while wine is aging in the wooden barrels. Humidity, however, was not intended for the modern home cellar where wine is stored in glass bottles with sealed corks.

**Light:** UV rays are not only harmful to people, they are damaging to wines - especially those in clear bottles. Since oxygen molecules in wine absorb UV rays, wine should never be stored in direct light for long periods of time.

**Vibration:** Provided that sediment is left undistributed and particles are not suspended, vibration in a storage environment is not an issue. Wines can become flat or tired when voids and vacuums are created inside the wine bottle. In order to create voids and vacuums within a liquid, aggressive motion or shaking of the wine bottle would have to occur.

## The Right Temperature for Wine

Temperature	Wines
Approximately 60°F (15°C)	Red
50°F - 55°F (10°C -12°C)	White
Approximately 45°F (7°C)	Sparkling

## Wine Captain® Models - A Touch of Elegance

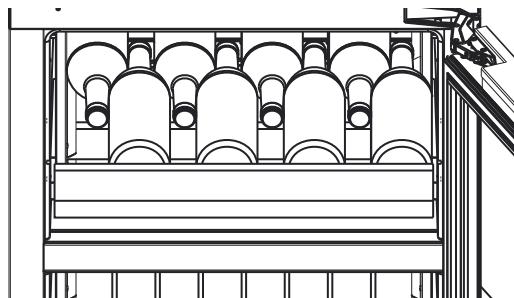
In 1985 U-Line was the first North American appliance manufacturer to develop a residential wine storage unit, the Wine Captain®. Each U-Line Wine Captain® model is designed to impress and inspire anyone with an interest in wine by providing cellar conditions in stylish, undercounter units. U-Line Wine Captain® models offer stable storage temperatures, a 50% internal relative humidity and protection from UV light rays. U-Line has the largest product offering available, making storing, presenting, and sharing your wine effortless and elegant.

## Recommended Wine Storage

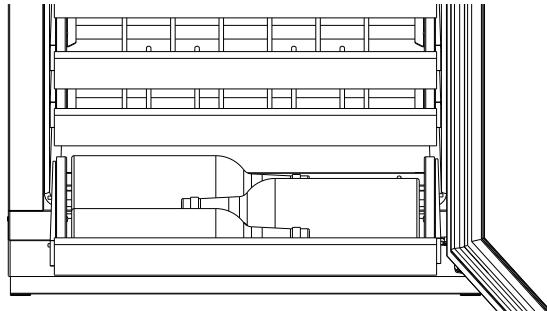
Specially designed horizontal wine racks properly position the bottles so the wine remains in contact with the cork, which ensures the cork does not become dry.

U-Line recommends arranging wine bottles as shown in the illustrations below.

### Racks 1 through 5:

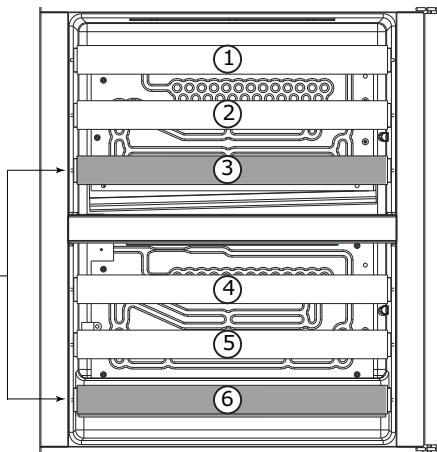


### Rack 6:



**Larger diameter bottles may be stored on the shaded racks, illustrated below.**

Use These  
Racks For Larger  
Diameter Bottles  
& Champagne



NOTE: After stocking, allow unit to stabilize product temperatures for 24 hours.

## Cleaning

### EXTERIOR CLEANING

#### Stainless Models

Stainless door panels, handles and frames can discolor when exposed to chlorine gas, pool chemicals, saltwater or cleaners with bleach.

Keep your stainless unit looking new by cleaning with a good quality all-in-one stainless steel cleaner and polish monthly. For best results use Claire® Stainless Steel Polish and Cleaner, which can be purchased from U-Line Corporation (Part Number 173348). Comparable products are acceptable. Frequent cleaning will remove surface contamination that could lead to rust. Some installations may require cleaning weekly.

#### **Do not clean with steel wool pads.**

#### **Do not use stainless steel cleaners or polishes on any glass surfaces.**

Clean any glass surfaces with a non-chlorine glass cleaner.

#### **Do not use cleaners not specifically intended for stainless steel on stainless surfaces (this includes glass, tile and counter cleaners).**

If any surface discoloring or rusting appears, clean it quickly with Bon-Ami® or Barkeepers Friend Cleanser® and a nonabrasive cloth. Always clean with the grain. Always finish with Claire® Stainless Steel Polish and Cleaner or comparable product to prevent further problems.

#### **Using abrasive pads such as ScotchBrite™ will cause the graining in the stainless steel to become blurred.**

#### **Rust not cleaned up promptly can penetrate the surface of the stainless steel and complete removal of the rust may not be possible.**

### Integrated Models

To clean integrated panels, use household cleaner per the cabinet manufacturer's recommendations.

### INTERIOR CLEANING

Disconnect power to the unit.

Clean the interior and all removed components using a mild nonabrasive detergent and warm water solution applied with a soft sponge or non-abrasive cloth.

Rinse the interior using a soft sponge and clean water.

**Do not use any solvent-based or abrasive cleaners.** These types of cleaners may transfer taste to the interior products and damage or discolor the interior.

### DEFROSTING

Under normal conditions this unit does not require manual defrosting. Minor frost on the rear wall or visible through the evaporator plate vents is normal and will melt during each off cycle.

If there is excessive build-up of 1/4" (6 mm) or more, manually defrost the unit.

Ensure the door is closing and sealing properly.

High ambient temperature and excessive humidity can also produce frost.

### **CAUTION**

**DO NOT use an ice pick or other sharp instrument to help speed up defrosting. These instruments can puncture the inner lining or damage the cooling unit. DO NOT use any type of heater to defrost. Using a heater to speed up defrosting can cause personal injury and damage to the inner lining.**

## NOTICE

**The drain pan was not designed to capture the water created when manually defrosting. To prevent water from overflowing the drain pan, and possibly damaging water sensitive flooring, the unit must be removed from cabinetry.**

### To defrost:

1. Disconnect power to the unit.
2. Remove all products from the interior.
3. Prop the door in an open position (2 in. [50 mm] minimum).
4. Allow the frost to melt naturally.
5. After the frost melts completely clean the interior and all removed components. (See INTERIOR CLEANING).
6. When the interior is dry, reconnect power and turn unit on.

## Cleaning Condenser

### **INTERVAL - EVERY SIX MONTHS**

To maintain operational efficiency, keep the front grille (plinth strip/base fascia) free of dust and lint, and clean the condenser when necessary. Depending on environmental conditions, more or less frequent cleaning may be necessary.

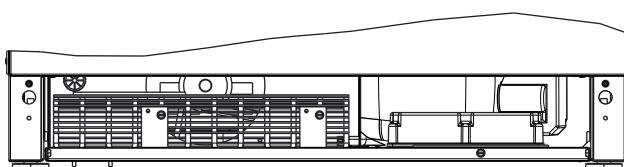
### **WARNING**

**Disconnect electric current to the unit before cleaning the condenser.**

### **NOTICE**

**DO NOT use any type of cleaner on the condenser unit. Condenser may be cleaned using a vacuum, soft brush or compressed air.**

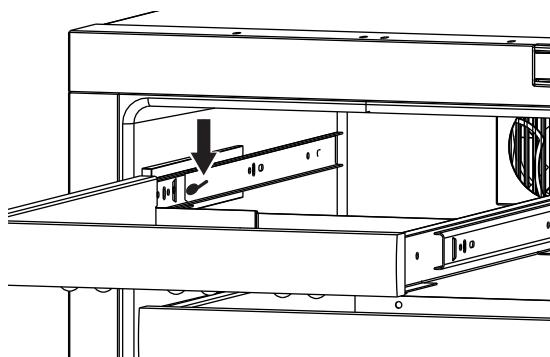
1. Remove the grille (plinth strip/base fascia). (See GRILLE-PLINTH INSTALLATION).
2. Clean the condenser coil using a soft brush or vacuum cleaner.
3. Install the grille (plinth strip/base fascia).



## Wine Rack Installation

### To remove wine racks for cleaning:

1. Remove any bottles stored on the rack.
2. Grasp the end of the rack and gently slide it out until it stops.
3. The release levers are located on the inside of the rack rails. Press the left rack release lever down. At the same time, lift the matching right rack release lever up. Pull the rack out until it is free of the tracks and the cabinet.



### NOTICE

**Do not remove the track rails from the cabinet.**

### To insert wine racks in the cabinet:

1. Align the left and right rack channels with the tracks in the cabinet. Ensure an even track engagement on both sides by gently pushing the rack into the cabinet until it stops.
2. Before reloading the rack, ensure proper movement of the travel stops in the left and right track rails by pulling the rack out gently until it stops.

### To clean wine racks:

1. Saturate a soft cloth with a soapy, warm water solution.
2. Wring excess water from cloth and wipe racks down.

### NOTICE

**The wine racks are greased. This white lithium grease helps provide smooth operation of the slide mechanism. It is important not to remove grease.**

## Extended Non-Use

### **VACATION/HOLIDAY, PROLONGED SHUTDOWN**

The following steps are recommended for periods of extended non-use:

1. Remove all consumable content from the unit.
2. Disconnect the power cord from its outlet/socket and leave it disconnected until the unit is returned to service.
3. If ice is on the evaporator, allow ice to thaw naturally.
4. Clean and dry the interior of the unit. Ensure all water has been removed from the unit.
5. The door must remain open to prevent formation of mold and mildew. Open door a minimum of 2" (50 mm) to provide the necessary ventilation.

### **WINTERIZATION**

If the unit will be exposed to temperatures of 40°F (5°C) or less, the steps above must be followed.

**For questions regarding winterization, please call U-Line at [+1.800.779.2547](tel:+18007792547).**

### **⚠ CAUTION**

**Damage caused by freezing temperatures is not covered by the warranty.**

## Troubleshooting

### BEFORE CALLING FOR SERVICE

If you think your U-Line product is malfunctioning, read the CONTROL OPERATION section to clearly understand the function of the control.

If the problem persists, read the NORMAL OPERATING SOUNDS and TROUBLESHOOTING GUIDE sections below to help you quickly identify common problems and possible causes and remedies. Most often, this will resolve the problem without the need to call for service.

### IF SERVICE IS REQUIRED

If you do not understand a troubleshooting remedy, or your product needs service, contact U-Line Corporation directly at +1.800.779.2547.

When you call, you will need your product Model and Serial Numbers. This information appears on the Model and Serial number plate located on the upper right or rear wall of the interior of your product.

### NORMAL OPERATING SOUNDS

All models incorporate rigid foam insulated cabinets to provide high thermal efficiency and maximum sound reduction for its internal working components. Despite this technology, your model may make sounds that are unfamiliar.

Normal operating sounds may be more noticeable because of the unit's environment. Hard surfaces such as cabinets, wood, vinyl or tiled floors and paneled walls have a tendency to reflect normal appliance operating noises.

Listed below are common refrigeration components with a brief description of the normal operating sounds they make. NOTE: Your product may not contain all the components listed.

- Compressor: The compressor makes a hum or pulsing sound that may be heard when it operates.

- Evaporator: Refrigerant flowing through an evaporator may sound like boiling liquid.
- Condenser Fan: Air moving through a condenser may be heard.
- Automatic Defrost Drain Pan: Water may be heard dripping or running into the drain pan when the unit is in the defrost cycle.

### TROUBLESHOOTING GUIDE

#### **DANGER**

**ELECTROCUTION HAZARD. Never attempt to repair or perform maintenance on the unit before disconnecting the main electrical power.**

Troubleshooting - What to check when problems occur:

Problem	Possible Cause and Remedy
Digital Display and Light Do Not Work.	Ensure power is connected to the unit. If the unit is cooling, it may be in Sabbath mode.
Interior Light Does Not Illuminate.	The light bulb may be defective. If the unit is cooling, it may be in Sabbath mode.
Light Remains on When Door Is Closed.	For glass door models, press the light icon and close the door. Check reed switch.
Unit Develops Frost on Internal Surfaces.	Frost on the rear wall is normal and will melt during each off cycle. If there is excessive build-up of 1/4" or more, manually defrost the unit. Ensure the door is closing and sealing properly. High ambient temperature and excessive humidity can also produce frost.
Unit Develops Condensation on External Surfaces.	The unit is exposed to excessive humidity. Moisture will dissipate as humidity levels decrease.
Digital Display Functions, But Unit Does Not Cool.	Ensure the unit is not in "Showroom Mode." Momentarily unplug or interrupt power supply to the unit.
Digital Display Shows ER or E Followed by a Number.	E3 indicates the door may be opened too long. Ensure the door is closing properly. For other error codes contact U-Line Customer Service.

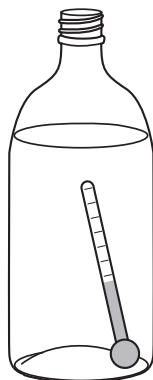
Problem	Possible Cause and Remedy
Digital Display Shows 1-16 or 99	A factory test mode may be enabled. Adjust the temperature to 99 and press the LIGHT icon.
Product Is Freezing.	Because product in contact with the rear wall may freeze, ensure no product is touching the rear wall. Adjust the temperature to a warmer set point.
Product Is Not Cold Enough.	Air temperature does not indicate product temperature. See CHECKING PRODUCT TEMPERATURE below. Adjust the temperature to a cooler set point. Ensure unit is not located in excessive ambient temperatures or in direct sunlight. Ensure the door is closing and sealing properly. Ensure the interior light has not remained on too long. Ensure nothing is blocking the front grille, found at the bottom of the unit. Ensure the condenser coil is clean and free of any dirt or lint build-up.

- After 24 hours, check the temperature of the water. If required, adjust the temperature control in a small increment (see CONTROL OPERATION).

**Causes which affect the internal temperatures of the cabinet include:**

- Temperature setting.
- Ambient temperature where installed.
- Installation in direct sunlight or near a heat source.
- The number of door openings and the time the door is open.
- The time the internal light is illuminated. (This mainly affects product on the top rack or shelf.)

## CHECKING PRODUCT TEMPERATURE



### To check the actual product temperature in the unit:

- Partially fill a plastic (nonbreakable) bottle with water.
- Insert an accurate thermometer.
- Tighten the bottle cap securely.
- Place the bottle in the desired area for 24 hours.
- Avoid opening the unit during the testing period.

## Warranty

### **U-LINE CORPORATION LIMITED WARRANTY PRODUCTS OUTSIDE THE UNITED STATES AND CANADA**

1. U-Line Corporation ("U-Line") warrants each U-Line product to be free from defects in materials and workmanship for a period of two years from the date of purchase.
2. During the two year warranty period for all U-Line products, U-Line shall be responsible for the labor costs performed by a U-Line authorized company, incurred in connection with the replacement of any defective part. All other charges, including transportation charges for replacements under this warranty and labor costs not specifically covered by this warranty, shall be the responsibility of the purchaser. This warranty extends only to the original purchaser of the U-Line product. The Product Registration Card included with the product should be promptly completed and mailed back to U-Line, or you can register on-line at [www.u-line.com](http://www.u-line.com). A proof of purchase may be required.
3. The warranty listed above does not apply to floor display models. The warranty for these models shall be 30 days from the date of retail purchase and only if U-Line's Product Registration Card included with the unit is completed and mailed back or electronically submitted to U-Line. This 30 day warranty does not apply to cosmetic damages. A proof of purchase may be required.
4. The following conditions are excluded from this limited warranty: damage caused by outdoor use as these units are not suitable for outdoor use; use of cleaners other than the recommended stainless steel cleaners and U-Line Clear Ice Maker cleaner; installation charges; damages caused by disasters or acts of God, such as fire, floods, wind, and lightning; damages incurred or resulting from shipping, improper installation, unauthorized modification, or misuse/abuse of the product; customer education calls; food loss and spoilage; door and water level adjustments

(except during the first 30 days from the date of installation); defrosting the product; adjusting the controls; door reversal; and cleaning the condenser.

5. U-Line products are designed to operate in ambient temperatures between 10°C and 32°C unless otherwise noted in the product manual. Exposure to temperatures outside this range may cause degradation of performance and issues, such as lower ice production or spoiled contents, that are not covered under the terms of this warranty as a result of that exposure. U-Line product may not be subjected to temperatures below 5°C without following the winterization and vacation shutdown procedures in the user guide.
6. If a product defect is discovered during the applicable warranty period, you must promptly notify your country importer. For a country specific listing of importers, please visit [www.u-line.com/intl](http://www.u-line.com/intl). In no event shall such notification be received later than 30 days after the expiration of the applicable warranty period. U-Line may require that defective parts be returned, at your expense, to the importer or directly to U-Line located in Milwaukee, Wisconsin, USA, for inspection. Any action by you for breach of warranty must be commenced within two years after the applicable warranty period.
7. If any applicable national law provides for a minimum mandatory warranty period that is longer than the aforementioned period of two years from the date of purchase, such longer period shall apply.
8. THIS LIMITED WARRANTY IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE DISCLAIMED. U-Line's sole liability, and your exclusive remedy, under this warranty is set forth in the paragraphs above. U-Line shall have no liability whatsoever for any incidental, consequential, or special damages arising from the sale, use, or

installation of the product or from any other cause whatsoever, whether based on warranty (express or implied) or otherwise based on contract, tort, or any other theory of liability.

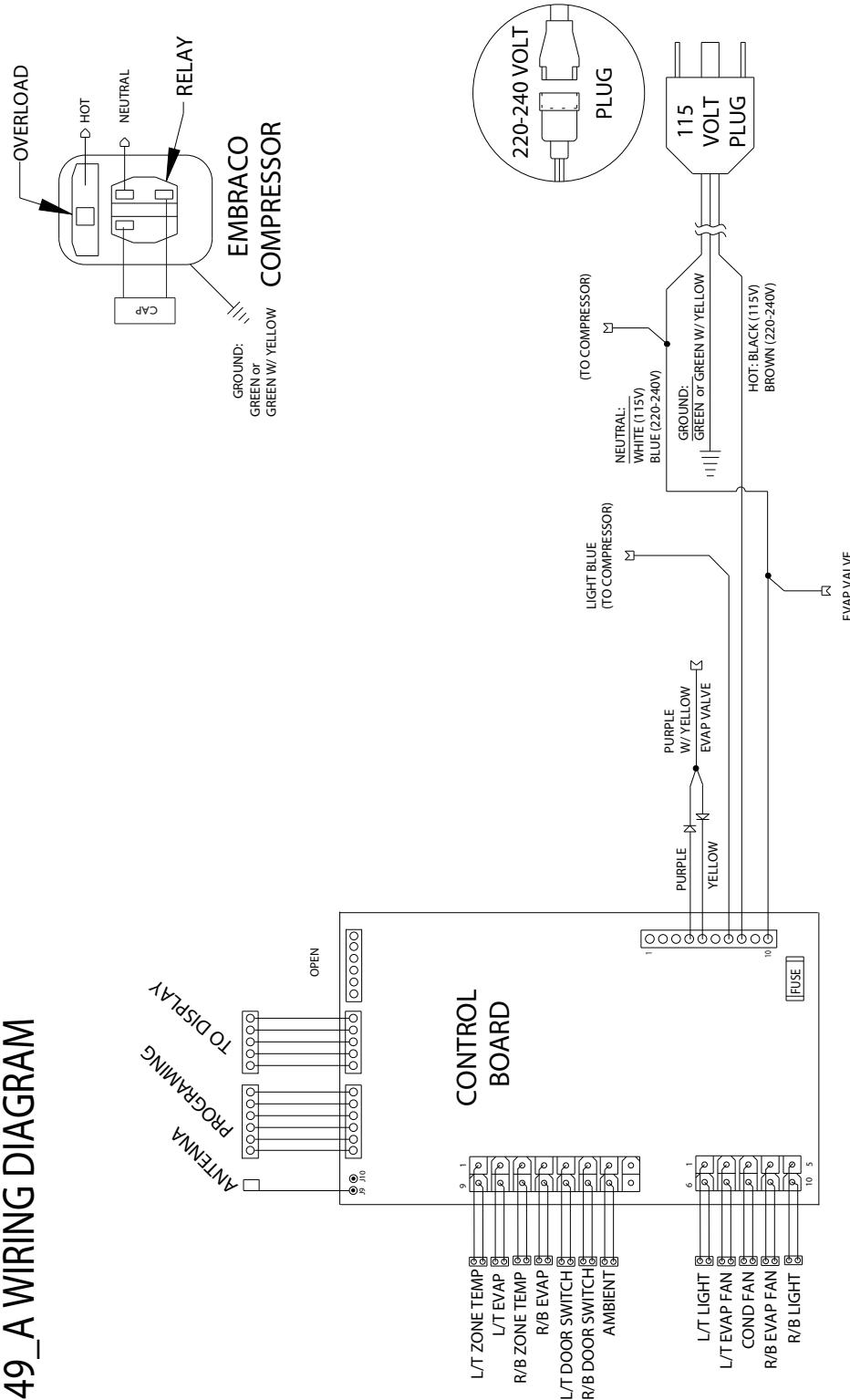
Warranty 6/2014 Rev.H

# USER GUIDE



SAFETY • INSTALLATION & INTEGRATION • OPERATING INSTRUCTIONS • MAINTENANCE • **SERVICE**

## Wire Diagram



42349 A WIRING DIAGRAM

## Product Liability

Important Note: Service or repairs must not be performed on any unit suspected to be involved in a property damage situation. If a unit has been altered or repaired in the field prior to U-Line's evaluation, any claim for damage may be declined.

Field service technicians are authorized to make an initial assessment. If in the service technician's judgment the damage is the result of a product defect, the product would be removed and returned to U-Line in an unaltered condition. The dealer would then be authorized to permanently replace the end-user's product at no cost to the end-user. Please call U-Line immediately at +1.800.779.2547 to initiate the Return Authorization and product exchange process.

If the service technician determines the damage is the result of installation issues (water connection/drain, etc.), the consumer would be notified and the correction could be made by the servicer or installer without requiring removal of the product. In this case, the claim for damages should be directed to the original installer.

On U-Line Clear Ice product equipped with a drain pump, the drain pump must be returned along with the unit, regardless of the drain pump manufacturer.

To complete the damage claim process for the customer, please forward the following to U-Line via fax (+1.414.354.5696), email (onlineservice@u-line.com), or mail:

- Pictures of the damage, U-Line product, property damage and installation (supply and drain connections, if applicable).
- A brief description of the damages and product service history (if possible).
- Damage estimates.

- A Return Authorization Number reference (provided by U-Line) and customer name when submitting information.

For shipping:

- Use an OEM shipping carton (U-Line will provide if needed or packaging can be reused from the replacement unit) and clearly mark the Return Authorization Number on the carton before returning the product.
- When the unit is ready for pickup, contact U-Line at +1.800.779.2547 and U-Line will make arrangements for a freight collect shipment.

Upon return to U-Line, the product will be evaluated within ten business days. No service company is authorized to make these evaluations in place of U-Line.

U-Line Customer Care staff will review the engineering evaluation and notify the customer of a valid claim or provide denial details.

8900 N. 55th Street • Milwaukee, WI 53223  
T: +1.414.354.0300 • F: +1.414.354.5696  
Website: [www.u-line.com](http://www.u-line.com)

**Right product. Right place.  
Right temperature Since 1962.**

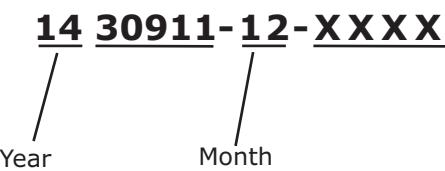
## Warranty Claims

The following information defines the parameters for filing a warranty claim:

- Valid serial number needed
- Valid model number needed
- Narda (or equivalent) form or submitted online at [www.u-line.com](http://www.u-line.com)
- 60 day submittal deadline from date of completed service
- Only one repair or unit per warranty claim
- Refrigerant should be labeled and included on the labor submittal
- Door and water level adjustments are covered 30 days from install date.

Serial Number Requirements:

**14 30911-12-XXXX**



A typical serial number is shown above. The first two digits of the first segment, 14, represents the production year. The number between the dashes, 12, represents the production month. In most cases, warranty status can be verified by the production date information within the serial number.

- Alternatively, a Proof of Purchase (or equivalent) may be submitted with the warranty claim to document

warranty status. We also accept the following information to verify warranty status:

- New Construction Occupancy Documents
- Closing Paperwork
- Final Billing – Remodel

Noting all of the following on the warranty claim will be considered proof of purchase, hard copy will not be required:

- Name of the selling Dealer
- Date of purchase/installation
- Order or Invoice number (if available)
- Description of document reviewed (i.e. store receipt, closing paperwork, etc)

Parts and labor claims are paid separately. Indicate part numbers and description for parts used in the warranty repair. Include the purchase invoice and name of the parts supplier used to procure the parts.

## Ordering Replacement Parts

Parts may be ordered on-line, by Fax or on the phone.  
See our contact information below:

[www.U-LineService.com](http://www.U-LineService.com) (with service login)

FAX Number: +1.414.354.5696

Phone Number: +1.800.779.2547

### **NOTICE**

**Use only genuine U-Line replacement parts. The use of non-U-Line parts can reduce speed of ice production, cause water to overflow from ice maker mold, damage the unit, and void the warranty.**

Warranty parts will be shipped at no charge after U-Line confirms warranty status. Please provide the model, serial number, part number and part description. Some parts will require color or voltage information.

If U-Line requires the return of original parts, we will inform you when the parts order is taken. This requirement will be noted on your packing list. A prepaid shipping label will be included with the replacement part. Please enclose a copy of the parts packing list and any labor claims with your return. Please be sure the model and serial numbers are legible on the paperwork. Tag the part with the reported defect.

When ordering a non-warranty part, you will need an open account and tax exemption on file at U-Line. Another option would be to visit [www.u-line.com](http://www.u-line.com) to locate an authorized parts distributor in your area.

## System Diagnosis Guide

### REFRIGERATION SYSTEM DIAGNOSIS GUIDE

System Condition	Suction Pressure	Suction Line	Compressor Discharge	Condenser	Capillary Tube	Evaporator	Wattage
<b>Normal</b>	Normal	Slightly below room temperature	Very hot	Very hot	Warm	Cold	Normal
<b>Overcharge</b>	Higher than normal	Very cold may frost heavily	Slightly warm to hot	Hot to warm	Cool	Cold	Higher than normal
<b>Undercharge</b>	Lower than normal	Warm-near room temperature	Hot	Warm	Warm	Extremely cold near inlet - Outlet below room temperature	Lower than normal
<b>Partial Restriction</b>	Somewhat lower than normal vacuum	Warm - near room temperature	Very hot	Top passes warm - Lower passes cool (near room temperature) due to liquid	Room temperature (cool) or colder	Extremely cold near inlet - Outlet below room temperature backing up	Lower than normal
<b>Complete Restriction</b>	In deep vacuum	Room temperature (cool)	Room temperature (cool)	Room temperature (cool)	Room temperature (cool)	No refrigeration	Lower than normal
<b>No Gas</b>	0 PSIG to 25"	Room temperature (cool)	Cool to hot	Room temperature (cool)	Room temperature (cool)	No refrigeration	Lower than normal

## Compressor Specifications

### **DANGER**

**Electrocution can cause death or serious injury.**  
**Burns from hot or cold surfaces can cause serious injury. Take precautions when servicing this unit.**

**Disconnect the power source.**

**Do not stand in standing water when working around electrical appliances.**

**Make sure the surfaces you touch are not hot or frozen.**

**Do not touch a bare circuit board unless you are wearing an anti-static wrist strap that is grounded to an electrical ground or grounded water pipe.**

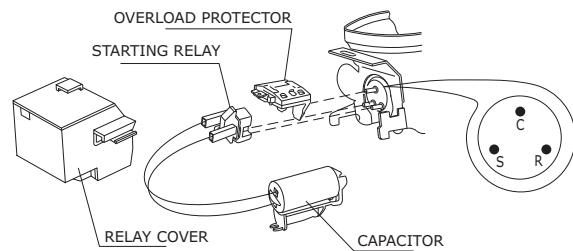
**Handle circuit boards carefully and avoid touching components.**

To measure the start winding resistance, measure across the C and S pins.

To measure the run winding resistance, measure across the C and R pins.

Also check S to R and you should get the sum of the run and start windings.

To ensure the windings are not shorted, check the S and R to ground.



### Electrical Relay and Overload Protector

<b>EMX20CLC</b>	
Refrigerant	R600a
Voltage	220 - 240 VAC
Frequency	50 Hz
Run Cap	2 $\mu$ F/380 VAC
Start Winding	34.9 Ohm at 77°F/25°C
Run Winding	47.8 Ohm at 77°F/25°C
LRA	1.9 A
FLA	0.3 A
Starting Device	TSD
Overload	4TM110KFBYY-53

\* All resistance readings are  $\pm 10\%$

## Troubleshooting - Extended

### **SPECIFIC ERRORS AND ISSUES**

The technically advanced diagnostic capabilities of the electronic controls utilized on the 1200 and 2200 series units allows for easy and thorough troubleshooting.

Navigation of the control is the key and is explained in the CONTROL OPERATION section of the manual, along with control button layout, control function descriptions, a service mode menu and service menu selection explanations.

Verification of temperature and thermistor performance can be identified by directly viewing thermistor readings in the service mode.

Component failure issues can be identified through service mode menu #19, "Component Testing." Individual components can be switched on and off to check for both proper function of a specific component and also delivery of supply voltage to the components through the relays and DC outputs located on the relay/power board.

Included in this section are some diagnostic tips and of course, if additional help is required please contact the U-Line Corp, "Customer Care Facility" at +1.800.779.2547 for assistance.

 **CAUTION**

**Never attempt to repair or perform maintenance on the unit until the main electrical power has been disconnected from the unit.**

**TROUBLESHOOTING GUIDE**

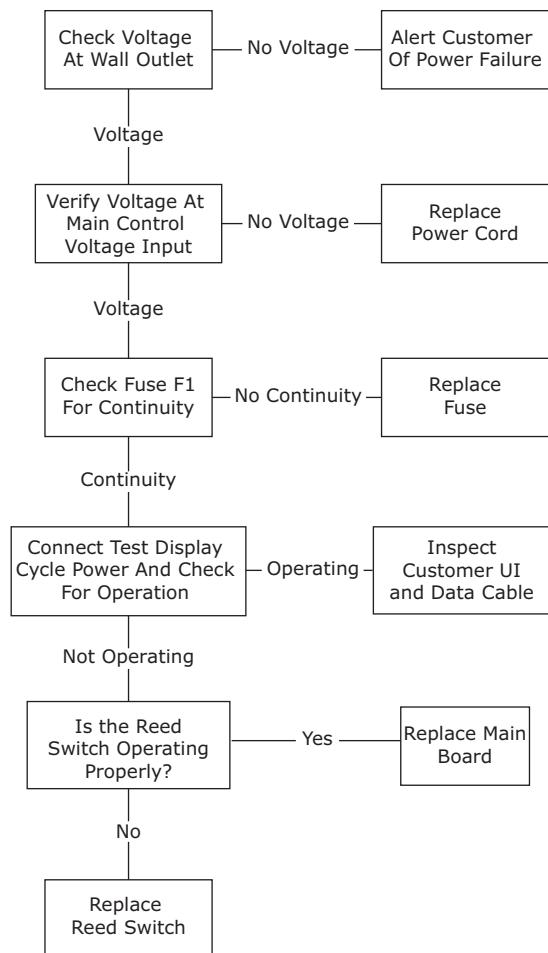
Concern	Potential Causes	Suggested Remedy
Not Cooling	Compressor overheating	Verify proper air flow through condenser. Is condenser clean? Confirm condenser fan operation. Confirm proper compressor operating voltage. Use #19, Component Testing in Service Mode.
	Compressor not operating	Confirm proper compressor operating voltage. Use #19, Component Testing in Service Mode. Test overload and relay, replace as needed.
	Compressor operating - no cooling	Refer to System Diagnosis Guide.
	Evaporator fan not operating	Use #19, Component Testing in Service Mode.
Frozen Product	Control set too cold	Adjust Set Point Temp accordingly.
	Review logged error codes	Refer to #14, Error Log in Service Mode.
	Thermistor failure	Check Error Log in Service Mode, OHM thermistor.
Frost Buildup Inside Unit	Door Ajar or Restricted from Closing	Check door clearance to adjoining cabinetry. Check distribution of product in unit.
	Evaporator fan not operating	Use #19, Component Testing in Service Mode.
	Thermistor failure	Check Error Log.
Display Not Working	Unit placed in Sabbath mode?	Press and hold  for 5 seconds to check.
	Display unplugged	Verify that both ends of the display wiring are firmly connected.
	Display wiring broken or damaged	Perform continuity test of wiring and replace as needed.
Internal Lights Not Working	Control Setting	Unit set to Sabbath Mode. Press and hold  for 5 seconds to check.
	Door switch misaligned or defective	Check the function of reed switch and door magnet adjustment.
Noisy	Refrigeration tubing touching cabinet	Carefully reposition tubing.
	Fan blade obstruction (wiring, foam insulation, packaging material)	Remove obstruction.

## MAIN CONTROL

The main control board is very robust and is rarely the cause of system issues. It is important to fully diagnose the board for any suspected failures before attempting to remove the board for replacement or service. Follow the guidelines below to fully test and diagnose the main control.

## Power Fault

If the unit does not (or seems to not) power on, follow the flow chart below to help diagnose the issue. Before beginning it is important to first verify the unit is not simply set to sabbath mode.



## Testing The Main Control

If the main control is suspected of being faulty, the following procedure should be performed to verify main control for functionality.

## Relay & DC Outputs

One of the primary functions of the main control is to operate the multiple relay and DC outputs during each cycle. Verify proper operation of these relays using the following procedure.

1. Enter "Relay Toggle" through the service menu.

## NOTICE

**Frequently toggling the compressor relay could force the compressor into overload. The compressor will automatically deactivate during an overload and will remain deactivated until the overload switch cools. This could take some time. It is important to allow the compressor at least 5 minutes off time between relay cycles.**

2. Toggle the relay. Its related component should activate / deactivate with the switching of the relay. If it does not, test component.

## Other Suspected Main Control Faults

If other components have been ruled out as being faulty but the unit continues to have operating issues, it is most likely due to a configuration error. Configuration errors can be cleared by restoring the unit to its factory default setting. Factory defaults may be restored through the service menu.

### CAUTION

**Precautions must be taken while working with live electrical equipment. Be sure to follow proper safety procedures while performing tests on live systems.**

## **TERMISTORS**

Thermistors are used for various temperature readings. Thermistors provide reliable temperature readings using a resistance which varies based on surrounding temperatures. If a faulty thermistor is suspected it may be tested using an accurate ohmmeter. In an ice water bath (32°F) resistance should measure 16.1 kilohms.

**5K OHMS @ 77°**  
**16.1K OHMS - 32°F ambient**

## **THERMISTOR FAILURE**

### **Zone Thermistor**

If the zone thermistor fails, the unit will continue to operate in a timed limp mode for 5 minutes on and 45 minutes off. The unit will otherwise operate normally. The error will be displayed in the error log.

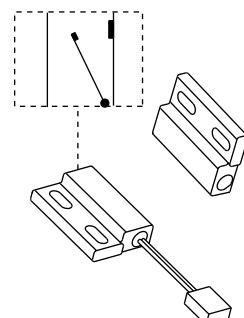
### **Evaporator Thermistor**

If the evaporator thermistor fails, the unit will rely on a preset defrost time during defrost cycles. The unit will otherwise operate normally. Evaporator thermistor errors will be displayed in the error log.

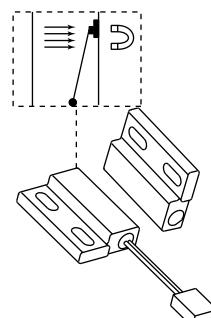
Always assure that all thermistor connections are clean and dry. Whenever opening a thermistor connection be sure to apply a fresh dab of die electric grease.

## **REED SWITCH**

A reed switch is used to monitor door state. When the door is closed magnetic force pulls the reed to its contact and closes the circuit which turns the light and display off. When the door is open the reed pulls away from the contact and opens the circuit. If the door is left open for longer than 5 minutes, the switch will trigger an error code and set an audible warning.



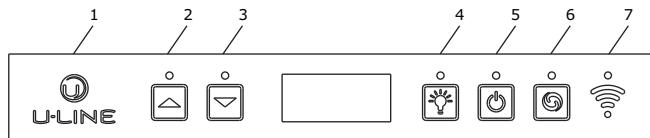
**Magnet Away From Switch**  
(Door Open)  
(Switch Open)



**Magnet Close To Switch**  
(Door Closed)  
(Switch Closed)

## Control Operation - Service

### UI BUTTON LAYOUT



#### 1. Hidden Button

- Accesses Service Menu
- No LED directly above. LED #7 turns on with button activation.

#### 2. Up Button

- Increases temperature
- Navigates through service menu

#### 3. Down Button

- Decreases temperature
- Navigates through service menu
- LED activated with button activation

#### 4. Light Button

- Activates light for 3 hours on select models
- Used to select items in service menu
- LED activated with button activation

#### 5. Power Button

- Turns unit off/on
- LED activated with button activation (only turning unit off)

#### 6. Clean Button

- Activates Clean Cycle on CLR models
- LED activated with button activation

#### 7. LED

- No button
- Illuminates with Hidden Button
- Illuminates with required displayed alerts

### CONTROL FUNCTION GUIDE

FUNCTION	COMMAND	DISPLAY/OPTIONS
ON/OFF	Press  and release	Unit will immediately turn ON or OFF
Toggle lights	Press  and release to leave interior light on for 3 hours	Glass door wine captains and beverage centers only.
Adjust refrigerator temperature	Press  or  and release	When the "F" or "C" in the display is flashing, press  or  to adjust the set point temperature.
View temperature in unit	Press  and  and release the together	The display will flash and then toggle from set point to temperature in unit.
Toggle between F/C	Hold  and  for five seconds	The display will change units.
Service mode	Push and hold the hidden icon for 10 seconds to enter. Then press  and  to scroll through the service mode menu.	The display will change units.

## **ELECTRONIC CONTROL DESCRIPTIONS QUICK GUIDE**

Except as noted, these functions are available on all models.

### **1. ON/OFF**

The ON/OFF mode allows the unit to be turned on and off via the keypad. Push/release power key to toggle ON/OFF. Internal lights will go off with power.

### **2. TOGGLE LIGHT**

On units with glass doors, touching the LIGHT key will turn on the cabinet light for 3 hours at a time.

Touching the key again will turn the light off. Using the cabinet light for more than 3 hours may be detrimental to the cabinet temperature and product. Only available on BEV, WC models.

### **NOTICE**

**This does not apply to ADA24R glass door units.**  
**The light and display are always off when the glass door is closed.**

### **3. ADJUSTING THE SET POINT**

To adjust the set point press and release either the WARMER or COLDER key. This will start the set point flashing. While in this mode you can adjust the set point warmer or colder until the desired temperature is reached. When adjustment is complete stop touching the display and the set point will be saved in approximately five seconds.

### **4. VIEWING ACTUAL TEMPERATURE**

In viewing temperature in these modes any offsets are taken into account. This means that if you place a thermistor in a known temperature, let's say ice water, it may not read the 32°F that you would assume. If the control offset was preset at -3°F while you placed the thermistor in an icebath, the actual thermistor reading when viewing actual temperature would read 35°F. In the unit this would cause the cabinet to push itself 3° cooler. To view pure thermistor readings you must go into the service menu and choose the correct option.

To view the thermistor temperature, push and release the up and down keys. The display will show the corrected refrigerator temperature.

### **5. CHANGING FROM FAHRENHEIT TO CELSIUS**

To change the displayed temperature from °F to °C, push and hold the up and down arrows for 5 seconds. Repeat to change back.

### **6. SHOWROOM MODE**

This mode is designed to show units in a display environment. When in this mode the only functions will be the control and cabinet lights. The compressor, fans, etc. will not operate. To enter this mode hold the light key and the power key for 5 seconds. The display will flash once and beep and the degree symbol will begin to flash. When the degree symbol is flashing the unit will allow the use of the control for demonstrations. The unit can be left in this mode indefinitely. To exit this mode, interrupt power to the unit.

### **7. SERVICE MODE**

This mode has 28 different options available for service diagnostics. To enter the mode hold the hidden key for 10 seconds. The display will show "0." When in this mode use the up and down arrows to select the desired option. The LIGHT key is the ENTER key and will enter a function. If changing a setting, you must press the LIGHT key again to retain the changed setting. To exit the service mode scroll to option "0" and press the LIGHT key. After five minutes of not touching any keys the mode will also exit automatically.

**SERVICE MODE QUICK GUIDE**

Number	Service Mode Menu Item	To Navigate/Access
1	View thermistor #1 top zone temp no offsets	Use up/down to access and light bulb key to view
2	View thermistor #2 top evaporator no offsets	Use up/down to access and light bulb key to view
3	View thermistor #3 bottom zone no offsets	Use up/down to access and light bulb key to view
4	View thermistor #4 bottom evaporator no offsets	Use up/down to access and light bulb key to view
5	Adjust thermistor #1 offset	Call tech line for assistance 800 779 2547
6	Adjust thermistor #2 offset	Call tech line for assistance 800 779 2547
7	Adjust thermistor #3 offset	Call tech line for assistance 800 779 2547
8	Adjust thermistor #4 offset	Call tech line for assistance 800 779 2547
9	View thermistor #2 set point no offsets	Use up/down to access and light bulb key to view
10	View thermistor #3 set point no offsets	Use up/down to access and light bulb key to view
11	View thermistor #4 set point no offsets	Use up/down to access and light bulb key to view
12	Adjust defrost interval 3 to 12 hours	Up/down to select, light icon to enter and save change
13	Adjust defrost duration 0 to 99 minutes	Up/down to select, light icon to enter and save change
14	Display error log	Use up/down to access and light bulb key to view
15	Clear error log	Use up/down to access and light bulb key to clear
16	View thermistor #1 differential	Do not make any changes to this
17	Fan on delay (start of cooling cycle)	Up/down to select, light icon to enter and save change
18	Fan off delay (after cooling cycle stops)	Up/down to select, light icon to enter and save change
19	Component testing (see service mode)	Use up/down to access, light bulb icon to toggle on/off
20	Display programmed model number	Use up/down to access, light bulb icon to display
21	Light all LED segments of display (test)	Use up/down to access and light bulb key to view
22	Display defrost cycles in last 24 hours	Use up/down to access and light bulb key to view
23	Displays last/current compressor run time	Use up/down to access and light bulb key to view
24	Activate harvest cycle	Use up/down to access and light bulb key to start
25	Restore factory defaults	Use up/down to access and light bulb key to restore
26	Display control board software version	Use up/down to access and light bulb key to view
27	Display user interface software version	Use up/down to access and light bulb key to view
0	To exit service mode	Use up/down to scroll and light bulb icon to exit

## SERVICE MODE QUICK GUIDE

### 1. THERMISTOR 1 TOP ZONE — TEMPERATURE

This will show the pure thermistor reading with no offsets taken into account. When placed in ice water this thermistor should read 32°F in this menu option.

### 2. THERMISTOR 2

View thermistor #2 temperature minus the offset.

### 3. THERMISTOR 3 BOTTOM ZONE —

View thermistor #3 temperature.

### 4. THERMISTOR 4

View thermistor #4 temperature.

### 5. ADJUST THERMISTOR 1 OFFSET

This calibration is only to be used if actual temperature at thermistor #1 is off from set point.

By adjusting the offset higher we can force the unit to drive the temperature down below the set point.  
(example: adjusting from 0 to +2 will drop the unit temperature 2 degrees)

DO NOT MAKE AN ADJUSTMENT TO THIS WITHOUT  
CONTACTING TECH LINE.

### 6. ADJUST THERMISTOR 2 OFFSET

Call tech line before adjusting.

### 7. ADJUST THERMISTOR 3 OFFSET

Call tech line before adjusting.

### 8. ADJUST THERMISTOR 4 OFFSET

Call tech line before adjusting.

### 9. VIEW THERMISTOR 2 SET POINT MINUS OFFSET

### 10. VIEW THERMISTOR 3 SET POINT MINUS OFFSET.

### 11. VIEW THERMISTOR 4 SET POINT MINUS OFFSET.

### 12. DEFROST INTERVAL ADJUST — 3 TO 24 HOURS

This will adjust the interval between defrosts from 3 to 24 hours. Adjusting from the factory settings may cause undesired temperature in the refrigerator section.

### 13. DEFROST LENGTH ADJUSTMENT — UP TO 99 MINUTES

The length of the defrost can be adjusted up to 99 minutes long. The other defrost parameters still apply. Lengthening a defrost may cause higher than normal temperatures in the refrigerator section.

### 14. ERROR LOG

A list of the errors in the order they occurred will scroll once on the display. Repeat if desired. Once viewed, perform option 15, to clear the errors from memory.

### 15. CLEAR ERROR LOG

Perform this operation after checking the errors.

### 16. ADJUST THERMISTOR 1 DIFFERENTIAL

This number should not be adjusted.

### 17. FAN DELAY ON=

“Fan Delay On” is the amount of time in minutes the fan will be delayed from starting from the beginning of a cooling cycle.

### 18. FAN DELAY OFF=

“Fan Delay Off” is the amount of time in minutes the fan will continue to run at the end of a cooling cycle.

## 19. INDIVIDUAL COMPONENT TOGGLE

### **Relay #2....**

**Relay #3.** Will start the ice maker module and forward it through a full harvest cycle

**Relay #4.** Will send voltage to the water valve.

**Relay #5.** Will send voltage to the hot gas valve, where applicable.

**Relay #6.** Will send voltage to the 120 volt condenser fan (clr ice only).

**Relay #7.** Will send voltage to the compressor.

**DC OUTPUT #1.** Will energize the light circuit.

**DC OUTPUT #2.** Will energize the evaporator fan circuit, where applicable.

**DC OUTPUT #3.** Will energize the condenser fan circuit (all but CLR ice).

**DC OUTPUT #4.** Secondary cabinet light, where applicable.

## 20. MODEL NUMBER DISPLAYED

Displays the two-digit model number of the specific unit.

## 21. LIGHT ALL LED SEGMENTS

This will illuminate all the LEDs on the display to ensure they work properly.

## 22. DEFROST INFORMATION

Displays the number of defrosts that have occurred in the past 24 hours.

## 23. COMPRESSOR RUNTIME BASED ON LAST CYCLE

This will show the number of minutes the compressor has run in the prior cycle (or current cycle if the compressor was running when service mode was entered).

## 24. ACTIVATE DEFROST

Turns on the hot gas bypass valve allowing hot gas to circulate through the evaporator causing frost to melt.

## 25. RESTORE FACTORY DEFAULTS

Will restore all adjustable functions to their factory settings.

## 26. MAIN SOFTWARE

Displays software version of the main control board.

## 27. USER INTERFACE SOFTWARE

Displays the software version of the user interface.

## ERRORS

\*All errors are logged in memory.

\*Only door error is displayed on the display and has an audible signal.

\*For 68118 models, pump error is displayed via alert light with no audible alerts.

**E1:**Thermistor 1 open.

**E2:**Thermistor 2 open.

**E3:**Thermistor 3 open.

**E4:**Thermistor 4 open.

**E5:**Thermistor 1 shorted.

**E6:**Thermistor 2 shorted.

**E7:**Thermistor 3 shorted.

**E8:**Thermistor 4 shorted.

**E9:**Door open error.

**P1:**Pump Circuit open (Does not apply to this model).

**MODEL LIST**

<b>1000</b>	<b>MODEL #</b>	<b>2000 (120V)</b>	<b>MODEL #</b>	<b>2000 (230V)</b>	<b>MODEL #</b>
1215R	07	2218R	05	2245R	55
1215WC	12	2218RG	04	2245DC	54
1224BEV	13	2218WC	06	2245WC	56
1224DWR	08	2224BEV	00	2260DC	50
1224R	14	2224FZR	11	2260FZR	57
1224RF	09	2224R	02	2260R	52
1224RSOD	10	2224RG	01	2260RDC	51
1224WC	15	2224WC	03	2260WC	53
CLR1215	18	2224ZWC	59	2260ZWC	58
CO1224F	19	ADA24R	17		

**PROGRAMMING THE UNIT TO CORRECT MODEL NUMBER**

- Unplug unit and install new board
- Push and hold the hidden icon
- Plug the unit in
- Release the hidden icon
- Use the up/down arrows to scroll to correct model number from chart
- Push and release the light icon
- Unit flashes OFF/ON then locks in model.

## Thermistors

Thermistors are used for various temperature readings. Thermistors provide reliable temperature readings using a resistance which varies based on surrounding temperatures. If a faulty thermistor is suspected it may be tested using an accurate ohmmeter.

### **THERMISTOR FAILURE**

#### **Zone Thermistors**

If a zone thermistor in the unit fails the unit will continue to cool in a back up mode to preserve the integrity of the contents. The unit will cycle on for ten minutes, then shut down for forty five minutes. The process will repeat until the problem is corrected. All other functions of the unit will continue to operate normally.

#### **Evaporator Thermistors**

If an evaporator thermistor fails the unit will rely on a preset defrost timer during defrost cycles. The unit will otherwise operate normally. Evaporator thermistor errors are recorded in service mode "Error Log" section.

This unit has four thermistors. Thermistor one is located along the right hand side wall. It is used to maintain the operating temperature within that zone.

Thermistor two is located on the back of the evaporator in the top zone and is used for defrost purposes.

Thermistor three is located along the right hand side wall in the bottom zone. It is used to maintain the operating temperature within that zone.

Thermistor four is located on the back of the evaporator in the bottom zone and is used for defrost purposes.

All four of the thermistors in the unit are identical. If a thermistor is suspected of being defective it can be OHMed out. In an ice water bath the thermistor should OHM out at 16.1k OHMS +/-5%.

Thermistor connections must be kept clean. A thermistor connection that has become corroded can cause resistance values from the thermistor to change as they pass through a dirty connection to the board.

It is for that reason that we apply die electric grease to all of our thermistor connections. Die electric grease will help to keep thermistor connections clean and dry.

If you change a thermistor in the unit please re-apply die electric grease to the connection. If you encounter a dirty thermistor connection, you should replace the thermistor and the thermistor harness.

#### Thermistor Resistance Data

<b>Temp (F)</b>	<b>Temp (C)</b>	<b>Nominal Resistance (OHMS)*</b>
-40	-40	169157
-31	-35	121795
-22	-30	88766
-13	-25	65333
-4	-20	48614
5	-15	36503
14	-10	27681
23	-5	21166
32	0	16330
41	5	12696
50	10	9951
59	15	7855
68	20	6246
77	25	5000
86	30	4029
95	35	3266
104	40	2665
113	45	2186
122	50	1803
131	55	1495
140	60	1247
149	65	1044
158	70	879
167	75	743
176	80	631

\* (=-5%)

## Defrost

These units are automatic (cycle) defrost unit will defrost itself when the control/sensor is satisfied of internal temperatures. Defrost mode ends when control/sensor asks for cooling.